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ORIGINAL COMMUNICATIONS.

Experimental Researches applied to Physiology and Pathology.

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(Continued.)

XXV.—ON THE TREATMENT OF EPILEPSY.

I have made numerous experiments with regard to the treatment of this dreadful affection, and I intend to publish them, in extenso, when some points that are still obscure, have become clear to my mind. Here I will merely relate some of the most important results of my researches. As I have had the opportunity during the last three or four years of observing every day a great many animals (more than a hundred) which had a convulsive affection resembling epilepsy very much, I have been able to discover some very interesting facts, among which are the following :

1st. For each epileptic animal, the number of fits, in a given time, is generally in a direct proportion with the quantity of food taken.

2d. There is an inverse proportion between the amount of exercise and the number of fits.

3d. Cauterisation of the mucous membrane of the larynx is able either to cure or to relieve these epileptic animals.

The convulsive affection existing in almost all these animals was the consequence of a transversal section of a lateral half of the spinal cord, in the dorsal or in the lumbar region.

I have already published the results of my experiments on epilepsy, in my lectures before large classes of Physicians and Medical students, both in France in 1851 and in this country in 1852.

These results are in perfect accordance with the views of Dr. Marshall Hall in relation to epilepsy. As the views of this eminent biologist are generally known, I need not expose them, and I will merely remind my readers of the three following points:

1st. The first muscles that contract spasmodically in almost all, if not in all, the cases of epileptic fits, are those of the larynx and the neck: 2d, spasm of the glottis taking place then, produces suffocation, in consequence of which convulsions are produced in the trunk and the limbs; 3d, tracheotomy may prevent these convulsions by preventing suffocation, and it is known that in some cases tracheotomy has cured epilepsy.

It has been objected to Marshall Hall that in cases of poisoning by strychnine, convulsions take place even when a tracheal tube renders respiration perfectly free. This objection has no value, because the state of the spinal cord in epileptics is not the same as in men or animals poisoned by strychnine. Certainly the excitability of the spinal cord is greater in epileptics than in healthy persons, but the degree of excitability of that nervous centre is much greater in persons poisoned by strychnine than in epileptics; and, therefore, it is easy to understand that certain excitations are able to produce general convulsions in one case and not in the other.

If we give a very slight dose of strychnine to an animal, so as not to poison it, but merely to increase slightly the excitability of the spinal cord, there are no convulsions when we touch or pinch or burn the skin, but if we prevent breathing for a few seconds only, general convulsions take place, exactly as in epileptic men or animals.

It has been said also, in opposition to Marshall Hall, that a spasm of the glottis of the severest kind occurs in cases of hooping cough, of spasmodic croup and even of apoplexy, without the occurrence of any other convulsions. The answer to this objec-

tion is, that in epilepsy the spinal cord is more excitable than in these other diseases, so that the same kind of excitation does not produce the same effects.

A great many facts, that I will publish elsewhere, prove that black blood, very probably by its carbonic acid, is an excitant of the spinal cord and of the medulla oblongata. When, as is the case in asphyxia, the blood is not oxygenated and deprived of the carbonic acid constantly produced in it, or received by it from different tissues, then the excitation made on these nervous centres becomes so powerful that convulsions are produced. This is found in men and animals, even in perfect health. If the asphyxia is incomplete, convulsions are not produced, unless the excitability of the spinal cord is greater than usual, and this is the case in epileptics.

In November, 1851, at the *Ecole Pratique*, of Paris, I published for the first time, before a class of about forty young Physicians and Medical students, the results of my experiments as regards the cauterization of the larynx in epilepsy. About eight months after, Dr. Eben Watson published a paper* in which he says: "The treatment I would now propose instead of tracheotomy is simply the application of a solution of nitrate of silver, varying in strength with the requirements of the case, to the glottis of the patient, with the view of diminishing the nervous excitability of the part in question. A similar treatment has been found by me remarkably successful in alleviating and removing, in a short time, the susceptibility of the patient to laryngismus, in cases of hooping cough, and of spasmodic croup (*laryngismus stridulus*,) nor can I see any reason why a similar result should not ensue in chronic cases of epilepsy."

The reasons given by Dr. E. Watson are partly the same by which I had been led long before him to perform the operation he suggests. But I had also some other reasons. It is perfectly known, in the actual state of Medical Science, that the greatest changes may be produced in the nervous centres, as well as in the nerves, by a very strong excitation of the termination of the nervous fibres in the skin or the mucous membranes. On this principle are founded many modes of treatment of some dis-

* Remarks on Dr. M. Hall's theory of the relation of Laryngismus to Epilepsy. In London Journal of Medicine, July, 1852, pp. 641-43.

eases of the spinal cord and of neuralgia. The application of caustics, blisters, cupping, hot iron, etc., is based on this principle. In accordance with it I am inclined to believe that epilepsy might be cured by a mere application of a hot iron to the skin of the neck; at least I have had two guinea-pigs cured after such an application, repeated three or four times.

The operation of tracheotomy proposed by Marshall Hall has proved successful in some cases. But it is a dangerous operation, and if it is proved that another one much slighter can produce the same good effects, it ought not to be practised.

That other operation is the cauterization of the larynx; it prevents the closure of the glottis, and thus is able to cure or to relieve epileptic patients as well as it cures some other diseases. Every learned physician knows that it is sufficient to cauterize the larynx once or twice to cure whooping cough in almost every case.

When the cause of the epileptic fits is excessive, and when the spinal cord is very excitable, to allow free breathing merely will not be sufficient to prevent the general convulsions. But their violence, if respiration is free, will be deprived of all the effect that would be produced by the excitation of black blood if breathing did not take place.

The distinction made between organic and inorganic epilepsy has not the importance that some writers seem to admit. There are alterations in the nervous system in both cases, and the only difference is that these alterations can be easily seen with the naked eye in one case and not in the other. I ought to point out that the cases of epilepsy in animals, which I have cured, were cases of organic epilepsy. These animals have been cured, although the apparent and primitive cause of the disease, *i. e.* a section of a lateral half of the spinal cord, continued to exist.

The cauterisation of the larynx on these animals was made every day, or every other day, and sometimes during two or three months. In some cases, the relief having been immediate, the cauterisation was made only twice a week. One of the animals experimented on was cured after three or four cauterisations; but the number of cauterisations necessary has been generally very much greater. When I left France in February, 1852, I had cured about a third of the animals treated by this

method; and all the others, except two or three, had been very much relieved, and certainly many of them would have been cured if the treatment had been prolonged.

I knew that an animal was cured, not only by the absence of spontaneous fits, but when I could not produce a fit by giving great pain. I had found that on any epileptic animal, except immediately after a paroxysm, I could very easily produce a fit by exciting pain and more particularly by pinching or burning the skin of the face or neck. So that I am authorised to believe that when a fit was not produced by pinching or burning the face, it was because epilepsy had ceased to exist.

Some Physicians in this country have already tried on man the mode of treatment that I have found so successful on animals. From what I know of the results of their attempt, it seems to me that man is like animals in this respect. There has not been yet a complete curation: but, except in one case, there has been a very considerable diminution in the frequency and the intensity of the fits.

As Physicians who have to treat epileptics, have not to make experiments, but to cure by making use of all the best means together, I think that the treatment of epilepsy ought not to consist merely of the cauterisation of the larynx. The plan of treatment I should suggest is the following:

1st. A cauterisation of the larynx with a strong solution of nitrate of silver, (at least 60 grains to the ounce,) every day, for at least five or six weeks.

2d. A cauterisation of the skin of the neck over the spine, with a hot iron, once a fortnight, for about two or three months.

3d. Exercise and gymnastics.

4th. Make use of oxide of zinc or ammoniated copper, remedies which a very respectable Physician of Geneva, (Switzerland,) Dr. Herpin, has found successful in many cases, when their dose has been considerable.*

5th. If in a fit of epilepsy, the suffocation is very considerable; the operation of tracheotomy ought then to be performed immediately.

* See his admirable work: *Du Pronostic et du Traitement de l'Epilepsie*. Paris, 1852. Ouvrage couronné par l'Institut de France.

XXVI. CURE OF EPILEPSY BY SECTION OF A NERVE.

It is a well known fact that epilepsy may be produced by injury to a nerve. Dr. John Cooke, in his *Treatise on Nervous Diseases*, says on this subject: "From the writings of Forestus, Van Swieten and Tissot, it appears that injury done to the nerves, or that a morbid state of them, has in many instances given occasion to epilepsy. In the *Edinburgh Medical Essays and Observ.*, a case is related of a violent epilepsy, which frequently occurred, which was produced by a hard cartilaginous substance, of the size of a large pea, situated upon a nerve. That this was the cause was evident, as the disease ceased on the extirpation of the tumor. In the same we have an account of epilepsy depending upon a calculus of an irregular figure, about the size of a nut, pressing on a branch of the sciatic nerve; and another in which the par vagum was compressed by a concretion of a similar kind." Darwin, in his *Zoonomia*, says, "I once saw a child about ten years old, who frequently fell down in convulsions, as she was running about in play. On examining, a wart was found on one ankle, which was ragged and inflamed, which was cut off, and the fits never recurred."

Van Swieten relates a case of curation of epilepsy by the extirpation of a hard cartilaginous body, somewhat larger than a pea, situated on a nerve of the leg.

A case is related in the *Medical and Physical Journal*, (vol. x. p. 52,) in which a cure of epilepsy was effected by the application of caustic to the nerve which accompanies the vena saphena.

Many other analogous cases are on record. Jacques Carron, (*Recueil périodique de la Soc. de Médecine de Paris*, t. xviii. p. 422,) cured a child by the extirpation of a small sebaceous tumor which existed on one of the fingers. Portal, (*Observations sur l'épilepsie*, Paris, 1827, p. 159,) cites a case observed by Fabos, in which the fits were preceded by a pain in one of the fingers. During a violent fit Fabos put a ligature around the radial nerve, and the patient was completely cured. Portal (*Anatomie Médicale*, vol. iv. p. 247,) relates that one of his pupils, Mr. Leduc, cured an epileptic by the extirpation of a hard tumor which was on one of the fingers. Joseph Frank

cured by castration a patient in whom epilepsy had appeared after an injury to the scrotum. Henricus ab Heer, cited by Sennert (*Opera omnia*, vol. ii. p. 489,) having observed that during her fits, a girl used to rub her two big toes, cured her by the application of caustic to these toes. Similar cases have been related by Alexander, of Tralles, and by Wepfer.

I have cured a guinea-pig of a very violent convulsive affection, much resembling epilepsy, by a section of the sciatic nerve. This animal had been bitten by another on the toes of one of the posterior limbs. A considerable slough appeared on the wounded part, and after two or three weeks fits appeared, and the animal shortly afterwards had many very violent fits every day. I laid bare the sciatic nerve and cut it transversely. After this operation I kept the animal many months, and never saw it have a fit. From this fact, and from those observed by many physicians above related, it appears clearly that in cases of epilepsy it is necessary to examine if there is no injury whatever to some nerve, and more particularly when the *aura epileptica* exists. If there is such an injury, the treatment ought to be either the section of the injured nerve or the removal of the tumor, if there is one, and sometimes the application of a caustic or a blister.

XXVI.—LAWS OF THE DYNAMICAL ACTIONS IN MAN AND ANIMALS.*

The following laws are based upon a very considerable number of facts which I have observed or found on record in many books, pamphlets and journals. I have collected these facts and I intend to publish them in a special paper.

I ought to say that many Physiologists, and more particularly Fontana, Delaroche, Adamucci, Broussais, Buchez, Réveillé-Parise, J. Mueller, J. Paget and Carpenter, have pointed out the existence of some parts of some of these laws.

1. Nervous actions, muscular contraction, contraction of the cellular tissue, the discharge of the electrical apparatus of some fishes, the galvanic current of certain organs, the galvanic dis-

* I ought to say that these laws and the facts upon which they are established, have been the subject of many communications that I have made to the *Société de Biologie*, at Paris, in the year 1848.

charge which accompanies the muscular contraction, and *probably* also the phosphorescence of certain animals and the ciliary movements, are phenomena which cannot exist without being attended with an organic waste which nutrition alone can provide for.

2. The faculty of originating these phenomena has a tendency to increase in direct ratio to the rapidity of the circulation of blood, to its abundance, and to the amount of its nutritive materials, both general and special.

3. During rest, *i. e.* at the time of the non-existence of these phenomena, the tendency of such a faculty towards augmentation meeting with no obstacle, augmentation actually takes place.

4. The increase is much more rapidly effected when an action has just been performed, than it is after a prolonged rest.

5. Nutrition becoming altered in the tissues which remain inactive for a long time, the faculty of producing the above-mentioned phenomena diminishes by degrees, and even finally disappears when the structure of the tissues has been deeply modified.

6. The faculty of originating these phenomena increases in direct ratio with the length of the rest, within certain limits; and when the latter are overleaped, there is a period when no change takes place; but afterwards the faculty decreases, on the contrary, in direct ratio with the length of the rest.

7. For many tissues which produce these phenomena a complete rest is scarcely possible. The phenomena take place, in appearance, spontaneously, and with as much energy as the temperature is higher.

8. The faculty of producing these phenomena decreases at the time they are going on, in proportion to their intensity and duration, and in inverse ratio to the nutritive reparation which simultaneously takes place.

9. Reparation thus incessantly supplying for expenditure, it is not possible, with regard to most of these phenomena, and as long as circulation goes on, to destroy entirely the faculty of originating them; or rather, as soon as we have succeeded in destroying that faculty, it is reproduced by nutrition.

10. Expenditure dependent upon action, being followed by a great activity in the nutrition, it happens that, if the action be

frequently renewed, there is an excess of nutrition and a considerable increase of the faculty of acting.

11. When the faculty of acting has been increased in virtue of the preceding reasons, within a certain limit, an equilibrium exists between the expenditure and the reparation, and the increase no longer takes place.

12. As it is possible for nutrition to take place in the tissues, although the nutritive fluid is not actually circulating in them, and provided that a certain amount of it exists in them, the faculty of acting may be increased in parts where circulation is stopped.

13. Although circulation and consequently reparation, are more active in summer than in winter time, at least in cold-blooded animals, the faculty of acting becomes more considerable in winter than in summer time, because the spontaneous expenditures abovementioned, and those due to external stimuli, or dependent upon the will, are by far less considerable.

All the preceding laws may be summed up in the following:

The intensity of the faculty which animal tissues possess, of producing the vital phenomena, seems to be in a direct ratio to the intensity and duration of the nutritive reparation, and in an inverse ratio to the intensity and duration of the existence of these phenomena.

CLINICAL REPORTS.

*Pennsylvania College, Ninth below Locust street. Service of
Professor GILBERT.*

Reported by W. H. GOBRECHT, M. D.

Feb. 9th.—Abscess.—Thomas C——, (Case LXXVII.) The abscess is filling up, and as far as the injury is concerned, the patient is improving. The case, however, is complicated with slight anasarca in a strumous diathesis; for which is ordered:

R. Pil. Hydrargyri No. ii.

To be followed by:

R. Potassæ bi-tartrat. ʒiij.

Pulv. Jalapæ. ʒij.

M. S. Take a teaspoonful every three hours until purgation results.

CASE LXXXIII.—*Inverted toe-nail*, in Rachel B——, aged 15. Ingrowing nail occurs more frequently in the foot than in the hand, the great toe being oftenest affected. It is caused by the pressure of tight boots or shoes upon the soft parts of the toes, forcing them up against the edges of the nail, thus burying it in their substance. The pressure thus produced by the edge or edges of the nail, causes inflammation and ulceration, and finally painful granulations arise, which overlie it, besides being impinged on by its edge, giving rise to so much pain that locomotion can not be performed. Moreover, these ulcerations may assume a cancerous character, if long neglected.

In treating inverted toe-nail, loose shoes should be ordered, and if the case be mild it may be cured, or at least much palliated, by gently stuffing cotton beneath the sharp edge of the nail to relieve its pressure, and applying caustic to the exuberant granulations. In bad cases, however, we can only cure by taking either the affected side or the whole of the nail away.

The patient presented had inversion of both lateral edges of the left great toe-nail, with ulceration and exuberant granulations about them.

It was removed according to the method of Dupuytren, that is, by introducing one blade of the sharp pointed scissors beneath the anterior edge of the nail at its centre, keeping close to it and passing down to the matrix. The blades being brought together and the nail divided, each half was wrenched from its bed by strong forceps. The ulcer remaining was dressed with Simple Cerate. This very painful operation was performed during partial Anæsthesia, induced by the inhalation of a mixture of Chloroform and Ether.

Double Cataract.—Margaret G——, (Case LXXII.) This patient is still improving. She sees faces but cannot distinguish them well. Pupil dilated in the presence of class with aqueous solution of Atropia.

16th. As this patient is anxious to return to her home in the country, it is thought proper to furnish her with a cataract glass, which is much more convex than those usually employed as spectacles, and is intended as a substitute for the absorbed lens. A number of such were presented, from which that best fitted to the peculiarities of her eye was selected, and by means of which she was enabled to see quite distinctly. She was directed not to use this for six or seven months to come, to avoid irritation and inflammation, or other changes of the retina, from the unaccustomed concentration of light upon its surface, which might result in the production of amaurosis.

CASE LXXXIV. *Hare lip with cleft palate.*—Rebecca —, aged 22. In this case very great deformity exists; the lip is not only deficient, but the cleft extends through the left superior maxillary and palate bones, whilst the alveolar processes and several teeth project at its anterior extremity, giving the patient an exceedingly unpleasant appearance, and materially affecting her powers of eating and speaking.

Besides the very great congenital deficiency of material to work with here, it is stated that an unsuccessful operation for relief had been previously performed; large cicatrices of a firm, fibrous character resulting.

The fræna existing on both sides of the fissure were detached, and the left side of the lip and ala of the nose freely dissected from the superior maxilla; a small wooden spatula was then placed successively beneath each margin of the cleft in the soft parts, upon which the fibrous edges were fully cut away by a sharp scalpel, the incisions being made concave to the fissure to ensure a horizontal margin to the new lip, which was then formed by the apposition of the cut edges by means of two large gold needles in the substance of the lip, and one smaller, just at its edge, the twisted suture being formed about them.

A broad adhesive plaster was then applied to each cheek as far back as the ear; each anterior extremity extending to the oral angle of its own side, was doubled upon itself, (thus forming a thick edge,) and connected with its fellow of the opposite side by ligatures passing between them; these ligatures being drawn

tightly, the tension of the buccinator and other muscles of the cheeks was effectually controlled.

16th. The small needle was removed on the third, and both the largest at the end of the fourth, whilst the threads adhered until the fifth day.

To-day, on completely redressing, adhesion is found perfect in nearly every part, though granulation must occur at some points. Isinglass plaster was applied directly over the wound to defend the new material from the action of foreign matters; adhesive strips, similar to those previously employed, were used in a like manner; whilst pressure of the connecting threads upon the lip was prevented by placing a roll of lint beneath the anterior extremity of each strip.

Feb. 12th. Spinal Irritation.—Robert C——, (Case LXVII.) Has had no spasm since his last appearance here.

Whenever an extra veratria pill is taken, the tingling sensation, indicative of its action, results. The patient is evidently improving. The veratria is discontinued, to be resumed if necessary.

CASE LXXXV. *Lumbago.*—Hugh L——, aged 21, boatman, presented himself as a surgical patient, but is discovered to have lumbago only, for which is prescribed:

℞	Potassii Iodidi,	ʒi.
	Vini Colchici Sem.	fʒi.
	Aquæ Menthæ virid.	fʒii.

M. S. A tea spoonful thrice daily, ceasing when it purges.

Porrigo.—Christiana S——, (Case LXXVII.) Improving under treatment.

CASE LXXXVI. *Porrigo.*—Francis S——, aged 10. The disease in this case appeared at the eleventh month, just after vaccination, the mother attributing it to the use of improper virus in the operation; this is, however, doubtless an error. The affection has continued up to this time, and during the course of it, ophthalmia tarsi, which is a chronic inflammation of the edges of the lids, extending into the Meibomean follicles, from which a viscid abnormal secretion results, has arisen. The

mother states that every variety of treatment has been employed, with low diet. There is prescribed free exercise in the open air, warm salt bath, followed by frictions with a coarse towel, and full diet; also,

R. Hydrarg. oxid. rubr. gr. x.
Cerat. simp. ʒi.

M. ft. ung.

S. To be applied to the edges of the lids nightly.

CASE LXXXVII. *Supposed polypus nasi*.—Mr. L—, aged 41, has been troubled for five or six years with a gradually increasing stoppage of the left nostril, attended by an alteration of the voice, and a polypus apparently existed upon the septum narium on the left side, an unusual spot for its development. On the application of the forceps, however, enlargement of the mucous membrane and periosteum were found to exist, but no polypi.

CASE LXXXVIII. *Strabismus*.—Caroline F—, aged 6, has convergent strabismus of the right eye. It was stated that, in cases of such an age, surgical attempts at relief were perhaps of doubtful propriety, inasmuch as although the patient would be perfectly willing to enter into the operation, the subsequent struggles might be very embarrassing. The anxiety, however, of the parents for its cure, led the Surgeon to the performance of the operation, which was done in the usual manner, and with entire success, although, as expected, the struggles of the child were exceedingly annoying.

CASE LXXXIX. *Inflammation of the Hand*.—Martha K—, aged 20, being affected with tetter, was recommended by her friends to apply corrosive sublimate made into an ointment with butter, which she did on the 8th inst. The quantity employed was large, and its application was followed by intense pain, swelling, redness and loss of sleep from the irritation set up, which has lasted, although now abating, to the present time.

The case is shown as an example of the results following the injudicious appliance of remedial means on popular recommendation.

A poultice was ordered as the only treatment necessary.

Feb. 16th. (CASE LXXV.) *Amaurosis*.—Albion D. S——. Reported as recovering vision rapidly.

19th.—Can now see with both eyes, though least with the right. The Iritis which existed in it is yielding rapidly and is almost subdued. The calomel powders are continued with occasional purgation.

The patient is informed that he must change his occupation to one requiring less stooping, since this aids in the production of congestion of the head, caused also by holding the breath during the exertion of hauling upon ropes, which he must pursue as a boatman and oyster dredger.

CASE XC.—*Congenital double Inguinal Hernia*, occurring in James B——, aged 5 months.

Remarks upon the pathology of this disease were given, and a double truss applied, which is to be worn for three or four months.

23d.—Truss removed and re-applied ; child doing very well.

CASE XCI. *Subacute Conjunctivitis*.—John H——, aged 33, was seized with inflammation of the eyes, about two weeks since, and this has now assumed the subacute form. The conjunctivæ alone are involved. Besides local treatment, his digestive organs require correction.

His tongue being enlarged, with a white coat upon it, appetite poor, and the bowels somewhat constipated, ordered

R. Mass. Pil. Hydrarg. ʒj.
Pulv. Aloes ʒss.
Pulv. Rhei ʒss.

M. ft. in pil., No. X.

S. Three to be taken at bed time. The others as required. If the three pills do not move the bowels, a seidlitz powder is to be taken the next morning.

As a local application to the eye,

R. Zinci Chloridi gr. ss.
Aq. Rosæ fʒj.

M.

S. Apply to conjunctivæ once a day.

CASE XCII. *Parotitis*.—Wm. S——, printer, aged 22. The swelling of the left parotid gland commenced on the 13th inst., since which time it has been increasing in size, being hard and painful. He is directed to apply linim. ammoniæ to the part, to be purged freely with magnes. sulphat., and to be restricted in diet.

CASE XCIII. *Epiphora*.—James P——, aged 44. This results from obstruction in the nasal duct. Creasote is painted over the lachrymal sac and the course of the duct as far as practicable.

Feb. 23d. CASE XCIV. *Fracture at and Luxation of right elbow joint*.—Thos. McG——, aged 7. The injury was sustained by this patient 23 days since, and 16 days after its occurrence he appeared for treatment, when the right fore-arm was found rigidly extended; the coronoid process was fractured and drawn up on the arm anteriorly, whilst the olecranon was drawn upward posteriorly, the ulna of course following it. The fore-arm was first drawn downward by means of extension and counter-extension, and then flexed; the parts being thus properly adjusted were retained in position by a splint with a movable angle, controlled by a Stromeyer's screw, at the elbow, applied on the anterior aspect of the limb.

The following sedative lotion was ordered to be applied to the joint by wetted cloths.

R. Plumbi Acetat. ʒij.
Morphiæ Acetat. gr. x.
Aquæ Oj.

M. ft. lot.

The angle of the splint, after some little time has elapsed, to be changed frequently, but gently and gradually, and if ankylosis seems inevitable, it is to be allowed in the flexed position only, since the arm is not then useless, as it is if rigidly extended.

In concluding this series of reports, the history of a case presented to the class on Dec. 11th, 1852, will be given, as omitted at that time.

Dec. 11th. CASE XCV. Hydrocele of the Neck.—Mrs. M—, aged 50, is presented, with a large tumor, of 18 years' growth, involving the entire anterior and lower portion of the neck; on examination this is found to project downward behind the sternum, to either side beneath the sterno-cleido mastoidei muscles, and upward as high as the upper edge of the thyroid cartilage. It would thus involve important structures, and might arise from several causes; our diagnosis must therefore be accurate. It is found to have pulsation and thrill, but this doubtless arises from overlying the carotid arteries, inasmuch as when the tumor is pressed away, the vessel of the relieved side can be distinctly felt, whilst no thrill and but very indistinct pulsation is communicated to that portion of the tumor. This also occurs when the other side is examined, besides which we cannot either diminish the size or empty it by pressure; it is therefore not an aneurism. It is not bronchocele, for its history tells us that it commenced in the median line and in the lower part of the neck. Now, had it been bronchocele, the lobes of the thyroid body would in all probability have been first affected, and this higher up than the present disease commenced; besides which, goitre is usually hard, whilst this is soft, especially upon the left side, and fluctuation is very evident upon palpation. It is, therefore, doubtless filled with fluid, (which so readily transmits the impulse of the vessels to the fingers,) and is a hydrocele,—a cyst,—whose contents are increasing, since they are secreted more rapidly than absorption is performed. Such tumors are generally located beneath the platysma myoides m., and upon the larynx. The removal of this tumor or the diminution of its size is important, since, being of 18 years' standing, it is large, and now increases rapidly, producing great deformity, whilst it presses on the trachea, keeping up a chronic congestion of the air passages, rendering breathing difficult, and thus, especially during the summer, rendering the slightest forms of labor very difficult for her performance.

On account of the size of this tumor, and the number of important parts involved, the operation here indicated would be exploratory in its character, the fluid would then be withdrawn, and if the sac was in a proper state, iodine injection would be

resorted to, with the intention of producing adhesion between its walls.

This patient, as previously stated, will present herself in future for operation.

BIBLIOGRAPHICAL NOTICES.

A System of Practical Surgery. By WILLIAM FERGUSSON, F.R.S., Professor of Surgery in King's College, London; Surgeon to King's College Hospital; and Surgeon to H. R. H. Prince Albert. Fourth American, from the third and enlarged London edition. *With three hundred and ninety-three illustrations.* Philadelphia: Blanchard & Lea, 1853. Svo. pp. 621, including index.

The fact that since its first appearance, ten years ago, the *Practical Surgery* of Prof. Fergusson has reached a third London and fourth American edition, affords abundant evidence of the great esteem in which it has been held on both sides of the Atlantic. The reputation of its author, as well as of the work itself, have been too long and too favorably familiar to our readers to require any detailed notice of the many new and strong claims upon their attention accumulated in the edition just presented to us. The marks of progress may be noted not only in the additional illustrations, of which there are over a hundred, but in the better arrangement as well as enlargement of several chapters, the discussion of recent improvements, and the consideration of many topics which were not alluded to or very slightly touched upon in previous editions. The nature and variety of these additions, however, must render it of course impracticable to dwell upon them here; and the best we can do for the book itself, as well as for our readers, is to recommend all who desire one of the most instructive manuals of practical surgery, to provide themselves at once with copies for their private reading. Meanwhile it may not be amiss to extract two passages from different portions of the book, which

are interesting in themselves, and will serve to show the determination of the author to keep pace fully with the progress of the times. The first relates to the use of anæsthetics, and especially of chloroform, in operations. On this topic he remarks in conclusion :

“ While the custom of rendering patients insensible to pain, during the performance of surgical operations, has rapidly gained an undoubted and sure position, there have been various questions and drawbacks regarding it, many of which are, even at the present day, of great practical importance. Several deaths have occurred, to all appearance directly from the anæsthetic agents, or the mode of their administration, and there has been much discussion on both these points. In the early application of ether, a complicated apparatus was used, but soon it was found that by holding over the patient's nostrils and mouth, a handkerchief, napkin or piece of sponge, moistened with a few drops of the anæsthetic, the desired effect was speedily produced, and to this day, perhaps the majority of those who use the agent are content with this mode of administering it. From the commencement it has been the custom of most surgeons in large operating practice, to have the agent administered by some one whose sole attention might be given to its physiological effects on the patient during the performance of the operation ; and among those who have performed this most important duty, there are few so extensively experienced as Dr. Snow. This gentleman, who is justly deemed our highest authority on the subject of anæsthesia in surgical operations, is in the habit of using an apparatus, as he is of opinion that there is less danger and more certainty thereby than with a napkin. There are different views on this subject, however, which need not be discussed here, and it may be sufficient to say that in whatever way the agent is called into use, its powers are fraught with subtle and imminent danger, unless the greatest caution be taken. For my own part I think it of little consequence by what means the agent is administered, provided there be a fair proportion of atmospheric air admitted to the lungs at the same time, or that there be the facility of admitting it, when the influence of the chloroform, or whatever agent is employed, seems too powerful.

“ At one time it was supposed that certain states of the constitution, certain conditions of the disease, or affections of certain organs, must preclude anæsthesia in surgical operations, but experience has shown that these fears have all been groundless. The age of a patient forms no objection to its use, for it may be given during the first few weeks of life, or at the latest imaginable date. Nor does it appear that positive disease of any organ forms an insuperable objection to its use. There are certain circumstances in the state of the constitution which will deter the surgeon from performing any important surgical operation, and in such instances the propriety of anæsthesia need never be discussed ; but as a general answer to all questions on this score, I am disposed to say, that in whatever case a surgeon may consider an operation

justifiable, the use of chloroform (this is named as the agent in most common use) is equally justifiable. If the operation be of minor importance, and of momentary duration, especially if the patient be courageous, and perhaps adverse to the practice, the surgeon need say little on the subject; but in all cases where much and protracted suffering is likely, chloroform should be recommended. It will not only save pain, but avert shock, and, provided the agent be properly administered, it will render the surgeon's duties more easy of accomplishment. There are few operations in which its use is not admissible and advantageous. In operations for cataract, especially by extraction, it is likely to prove injurious; as there is no certainty as to the movements of the eyeball and lids for some time after. I have used chloroform for removal of tonsils, in young persons, but the operation is difficult, and if the patient will keep steady otherwise, it had better not be used. In staphyloraphy the co-operation of the patient is so essential, that I deem chloroform inadmissible. It has been supposed that there is danger from blood trickling into the larynx and trachea in operations under chloroform. In one instance, in the early days of chloroform, I took some alarm on this score, in a case where blood was trickling from the posterior nares into the trachea and causing cough, but I feel now certain that there was no just cause of apprehension. I have since repeatedly removed both upper and lower jaw, and done many other operations involving considerable hemorrhage towards the throat, but have never seen any more inconvenience from such a cause than if chloroform had not been used. It has happened repeatedly in former times, that persons have died during the performance of operations. Mental emotions, shock, hemorrhage, have each and all had their influence; but, notwithstanding the various instances in which death has happened under chloroform, it may be doubted if sudden death, during operation, has occurred so frequently since the introduction of anæsthesia, as prior to that date. In my own experience I have twice seen patients under chloroform in great jeopardy—one of these had a protracted operation performed for resection of a joint, and possibly a similar state of prostration might have resulted without the use of this agent. In the other instance, tracheotomy was required for disease of the larynx, and under the chloroform, respiration became so slow and difficult, that it was feared the patient would die on the instant, before the operation could be executed. When the trachea was opened, he immediately breathed more freely, and speedily rallied from his alarming condition.

“I was certainly more impressed with the danger in this instance than in any other that I had seen; but Dr. Snow, who administered the chloroform, did not participate in my fears. The immediate effect of tracheotomy corroborates the view entertained by Ricord and others, that this proceeding may be resorted to with advantage when there seems danger from chloroform. When death has occurred seemingly from this agent, it has been immediate, and chloroform leaves the system so speedily, that if the patient has once become conscious, I doubt if death could ever be attributed to this cause. Chloroform has no influence whatever, either in retarding or accelerating the healing of a wound.

We have no statistical data on this subject, but altogether the impression on my mind is, that a patient is better off with chloroform both under and after an operation, than if he were without it. When an operation is contemplated under chloroform, almost the only precaution worthy of being taken is, that food should be avoided for several hours before, as chloroform on a full stomach is almost certain to induce sickness. So much has been written on the subject of chloroform since its introduction, that I deem it unnecessary to say much more regarding it at present, and I trust from what has been stated, that it will be understood that, with the few exceptions above made, and such others as might incidentally arise, the use of this agent is recommended as an invariable accompaniment of all surgical operations involving pain.

“The quantity of chloroform required for different patients is very variable. A few drops may suffice for some, while drachms may be needful for others, and generally the amount will be in proportion to the duration of the operation. Some persons take it kindly, even greedily, others make great objection and resistance to its use, both while conscious and unconscious, but all can be at last so thoroughly overpowered by its influence, that, compatible with respiration and circulation, the greatest imaginable quietness can be obtained. There is very little effect on the pulse in such cases; sometimes it is slightly excited at first, and if the dose be very potent, it may become slow and weak. There is greater effect on respiration. In some, in the early stages, the movements are rapid, and there seems an eagerness to fill the lungs with the vapor. In others, a tickling cough is excited. In many the full effect is induced with as slight a perceptible change as if sleep had suddenly come on, but in many others great irregularity in the respiratory movements ensues, and much cerebral excitement is induced. Rapid breathing may happen, as already mentioned, but the reverse may be the case, and the power of inspiration may suddenly seem to have ceased. For many seconds there may be no seeming attempt at respiration, but at last a deep breath is usually taken, which makes amends for the previous cessation. The cerebral excitement is evinced by crying, bawling, singing, laughing, incoherent talking, and with many there seems some prevailing idea which calls forth unusual and often great muscular action. Some strike forcibly with their fists, and with no seeming want of skill; others use their lower extremities, and others again make such violent general struggles as necessitate the greatest muscular exertion in those around to keep them steady. Often these violent struggles and the temporary cessation of respiration fall together, and to those not accustomed to such scenes, it appears as if immediate dissolution were impending; but in all such cases a little more of the vapor induces all that quietude which is characteristic of its full effect for the surgeon's purposes. There are various ways in which it may be decided that this period has arrived. Muscular relaxation is one of the best, but perhaps there is no test equal to that of touching the surface of the eyeball with the point of the finger. If there be any indication of feeling, the proper time has not arrived; if the contrary, then the surgeon may proceed. The agent must be admi-

nistered during the operation as may seem necessary, and it is best to continue its influence until all risk of pain, at the time of operation or dressing, has passed. In most instances it is highly desirable that the patient should be placed in bed before awaking from his anæsthetic trance. In many cases much mental and bodily suffering may be avoided by administering the chloroform before the patient is moved from bed. In painful diseases of joints, such as of the knee, there is often great suffering in carrying the patient to the operating table, which may, however, be avoided by using chloroform before he is disturbed. Some patients become conscious in a few minutes after the surgeon has ceased his work, while others remain for a longer period as if in calm sleep. In certain instances headache and general uneasiness are complained of for hours or even days after chloroform; but in the majority of cases the effects are slightly if at all felt when consciousness returns." (pp. 33—35.)

The second extract contains his appreciation of the treatment of aneurism by compression.

"So far as our comparatively limited experience in the method by pressure, as followed by the Dublin surgeons, will enable us to form an estimate of its value, it seems in many respects, if not in all, preferable to that by deligation of the main artery; and there seems these great advantages in it, that if it does not act satisfactorily, the Hunterian operation may still be resorted to, with as much probability of success as ever, while by its application none of those formidable dangers are incurred, which are the well known consequences of the application of the ligature. The difficulties and immediate dangers of a cutting operation are avoided. It may seem strange to make use of such language in the present day, as applicable to ligature of the superficial femoral artery—for that I assume to be the vessel meant by the unfortunately vague term of 'femoral;' nevertheless when it is known that great difficulties have been experienced in such a proceeding, even by hospital surgeons and teachers of surgery, and that the accompanying great vein has been wounded by different operators, the facts cannot be overlooked. Mr. Syme states in the *Edinburgh Monthly Journal of Medical Science* for November, 1851, that he has tied the superficial femoral artery twenty times without a fatal issue, and with perfect success, and both he and his patients may be congratulated on such satisfactory results; but the Tables above referred to show no such average success; and when it is borne in mind that the attempt at cure by pressure does not preclude the resource of the ligature, it seems to me that with the ample evidence before us of the great success which has attended the modern practice by this means, the surgeon should undoubtedly give it a trial ere he resorts to the knife. Unquestionably the evil result of the Hunterian operation, in regard to ligature of the superficial femoral artery, has in many instances resulted from the defective or injurious style of operation, but the same may be said of certain examples where pressure has failed. Granting both of these

statements to be correct, it cannot be overlooked that ligature of the superficial femoral artery, done to the perfection of human skill, has nevertheless been followed with the worst possible results. I have seen Mr. Syme perform the operation repeatedly with admirable skill and precision in all points, and the results have been all that could be desired; but I have seen many others, and among them I may name the late Mr. Liston, perform the same operation, with an equal amount of tact and judgment, yet the results have been very different. With pressure, surgery has still further resources, but with the ligature the fate of the case is, for a time, placed almost, if not quite, beyond human power; and doubtless the surgeons of Dublin who have resorted to this practice (many of whom stand among the highest of those who have graced the annals of the profession) have duly considered all these points." (p. 128.)

Atlas of Pathological Histology. By Dr. GOTLEIB GLUGE, Professor of Physiology and Pathological Anatomy in the University of Bruxelles, &c. Translated from the German by JOSEPH LEIDY, M. D., Pathologist to St. Joseph's Hospital, &c. *With three hundred and twenty figures, plain and colored, and twelve copper-plate engravings.* Philadelphia, Blanchard & Lea, 1853.

The student of pathological anatomy will not fail to recognize the name of Gluge, as one of the most industrious contributors to this department of medical science, and those familiar with his great work will also see, as an old friend, the present work originally appended to it.

Extending over only one hundred pages, it fulfils its title of *Atlas* in all particulars. The introduction occupying sixteen pages, gives us valuable tables of the magnitude and weight of the organs of man, in the normal and abnormal conditions.

A few introductory remarks on pathological histology open the division of the work devoted to this subject. It is divided into seven sections, each of which is clearly but succinctly expressed.

Section 1st treats of the development of the elements of tissues, and includes: 1, elements of tissues; 2, development of cells in the extended plasma of capillary vessels, in which the different modes of cell formation are treated of, and the paral-

lelism between the pathological and physiological developments shown, together with the development of fibres.

Section II is entitled, "The elements of the tissues combined in perfect or imperfect tissues, and arranged according to the process of disease." It treats of the tissues and elements of the tissues in an imperfect condition of development; cytoblastema nucleoli, nuclei and cells. Of transition forms to perfect tissues. Of perfect tissues.

Section III treats of the formation of the blastema, the sources from whence the plastic substance is derived which forms the material for the development of the new tissues: these are, according to the author, nutrition, secretion and inflammation.

The different stages of inflammation are spoken of under the heads of congestion, hyperæmia, stasis, exudation and gangrene; each of which has a short section to itself; the formation, diagnosis, and chemical relation of pus, receiving a full share of notice.

Section IV is upon the histological metamorphosis of the blood, interior and exterior to the vessels.

Section V is devoted to the subject of pyæmia, and is illustrated by numerous observations.

Section VI is on gangrene, which it treats briefly.

Section VII contains observations on histology, illustrative of the various subjects treated in the preceding pages.

Next follows twelve well executed steel plates, containing three hundred and twenty figures in the best style of the art, with the explanation of each. Although there are many points where the author differs from standard authorities, yet, upon the whole, we are pleased with the book, and recommend it to all our readers who may be interested in this department. That it is entirely reliable, we cannot say, and by itself can do very little good or harm. No one will be satisfied with it alone, and a very slender acquaintance with other authorities will correct the errors of this. The translator has had many difficulties to encounter in rendering it into English, but he has performed his task creditably, and his few additions enhance the value of the work.

Handbooks of Natural Philosophy and Astronomy. By DIONYSIUS LARDNER, D. C. L., &c., &c. *Second Course. Heat, Magnetism, Common Electricity and Voltaic Electricity. Illustrated by upwards of two hundred engravings on wood.* pp. 451. Philadelphia, Blanchard & Lea, 1853.

The name of Dr. Lardner has long been known to the scientific world as one of the best of English writers on the various departments of the Physical Sciences. His treatises on the Steam Engine, and on other branches of physics, have for years been familiar in our schools and colleges as standard authorities.

The handbooks of Natural Philosophy and Astronomy, which are now in course of re-publication in this country, are designed by their author more especially for students of the different professions, for the artisan, and, in fine, for those who are already engaged in the active callings of life, but who desire to sustain and improve their knowledge of the general truths of physical science. They will be found admirably adapted to promote this end, by imparting, in a very clear style, a due amount of information without pursuing them through their mathematical details.

The study of the physical sciences form a part of every extended system of modern education. To the medical man, however, it is presented with peculiar claims to attention, since so many of the functions of the living body, and so many of the appliances which his art has suggested as remedial agents in disease, belong strictly to the domain of physics.

The present treatise is a most complete digest of all that has been developed in relation to the great forces of nature—Heat, Magnetism and Electricity. Their laws are elucidated in a manner both pleasing and familiar, and at the same time perfectly intelligible to the student. The illustrations are sufficiently numerous and appropriate; and altogether we can cordially recommend the work as well deserving the notice both of the practising physician and the student of medicine.

THE MEDICAL EXAMINER.

PHILADELPHIA, APRIL, 1853.

DEATH OF PROFESSOR HORNER.

Dr. WILLIAM E. HORNER, Professor of Anatomy in the University of Pennsylvania, died at his residence in this city on the 13th of March last, in the 60th year of his age. His death, though somewhat sudden, was anticipated by his friends and family for some weeks; and, indeed, for many years, we believe, it had been apparent that organic disease was making slow but sure inroads on his naturally vigorous constitution.

No death, in the profession of this country, could have excited a more general sensation than that of Dr. Horner. Connected for thirty-three years with the University of Pennsylvania, as the adjunct and successor of Physick, he stood in the foremost rank among our teachers of national reputation; while he was no less widely known as the author of a Treatise on Special Anatomy and Histology, as a constant contributor to our periodical medical literature, and as a skilful, original, and successful surgeon.

Dr. Horner was born on the 31st of June, 1793, at Warrenton, in Fauquier county, Virginia, where he received his early education. He afterwards spent some time in an Academy, at Dumfries, in Prince William County, in the same State, where he remained till his seventeenth year.

In 1810, he commenced the study of medicine with Dr. John Spence, of Dumfries, a Scotch physician and graduate of Edinburgh, who enjoyed considerable reputation as a practitioner.

In the autumn of 1812, he attended his first course of lectures in the University of Pennsylvania, and soon evinced his predilection for the study of anatomy, being occasionally employed in assisting the Demonstrator of Anatomy in the preparation of Prof. Wistar's lecture.

On the 3d of July, 1813, he obtained a commission as Surgeon's Mate in the Army of the United States; and was appointed to the regiment stationed at Fort Mifflin, near Philadelphia.

In the Spring of 1814, he graduated at the University, having presented an Inaugural Essay on Gunshot Wounds. He was ordered, in the Summer of this year, to the Niagara frontier, and was actively employed at Buffalo, Niagara, and Fort Erie. Our readers are familiar

with his spirited and instructive reminiscences of this campaign, published in late numbers of the Examiner.

After the peace, in 1815, he was stationed at Norfolk, but he soon after resigned his commission, and returned to his native town, Warrenton, Virginia, where he entered upon the practice of his profession. It was not long, however, before he decided to seek a wider sphere, and, in November of the same year, he settled permanently in Philadelphia.

Dr. Horner's advancement here was almost without a precedent in rapidity. A stranger, without interest or influence, within two years from his establishment in Philadelphia, he entered the University as Demonstrator of Anatomy, under the most distinguished of American teachers; and three years afterwards, (in 1820,) he was appointed adjunct Professor of the same branch. In 1831, on the resignation of Dr. Physick, he was elected Professor of Anatomy in the University, and discharged the duties of this chair till within a short period of his death. From the date of his appointment to the adjunct Professorship, he devoted himself to the formation of an anatomical cabinet, which has gradually become one of the most splendid and complete in the world.

As a lecturer on anatomy, Dr. Horner was distinguished for clearness, perspicuity, and simplicity of style, a thorough familiarity with his subject, which secured entirely the confidence and attention of his hearers, and a manly, unaffected delivery. As a *teacher* he had no superior, (as we can bear grateful testimony.) To oratorical talent he made no pretensions, and had no claims.

Though up to a short period of his death, Dr. Horner continued in the steady discharge of his professional and other duties, he had for years suffered from dyspnoea, palpitation, and other symptoms, which left little doubt that he labored under cardiac disorder; and the emaciation of his frame made it evident that it was producing serious derangement of the functions of nutrition. For some weeks preceding his death, dropsical effusion had appeared. And, though within a day or two of his death, he was able to participate in the examination of students for degrees, yet we believe that neither himself nor his family entertained any hope that his life could be long protracted. The immediate termination, was, however, somewhat unexpected.

The *post-mortem* examination confirmed the diagnosis of disease of the heart. It was found very considerably hypertrophied and enlarged, being five and a half inches from the apex to the origin of the pulmonary artery, five and three-quarter inches in diameter, and thirteen and a half inches in circumference at its base. The tricuspid and mitral

valves were healthy. The arch of the aorta was dilated and thickly ossified. There was also recent peritonitis, with streaks of fresh coagulable lymph over the peritoneal surface of the intestines. Perforation of the stomach or bowels had been suspected, as the cause of the peritonitis, but no traces of this lesion were found.

Dr. Horner's death, at this comparatively early age, is a loss which the profession of our country feel severely. As an anatomist and surgeon, the worthy successor of an illustrious predecessor, his place must long be vacant. But if not full of years, he went full of honors, leaving an unstained reputation in every personal and professional relation. It is gratifying too, to know, that his labors were not without that rare professional recompense—an ample fortune, which he owed exclusively to his own exertions. No man could have closed life under more consolations; and that greatest and best of consolations, a firm Christian hope, had been long and well secured.

ST. JOSEPH'S HOSPITAL, *March 17th*, 1853.

At a Special Meeting of the Medical Board of St. Joseph's Hospital, held this day, for the purpose of taking action in regard to the death of their late President, WILLIAM E. HORNER, M. D., who departed this life on the 11th inst, it was unanimously

Resolved, That in Dr. Horner this Board have to lament one of the founders of the Hospital, a zealous and efficient advocate of its interests, and one of its most liberal benefactors, who spared neither his means, his labor, nor his skill, in furthering its welfare and in healing the diseases of its inmates; that in him they also mourn a colleague and a friend, who in all his intercourse was urbane and considerate, and ever prompt to sustain them by his influence and assist them by his counsel; one with whom it was a pleasure to associate and from whose exemplary candor they could always look for a just appreciation of their own acts.

Resolved, That a copy of this Resolution be furnished for publication in the Medical Examiner and the American Journal of the Medical Sciences.

ALFRED STILLÉ, Chairman.

J. HENRY SMALTZ, Secretary.

THE LATE DR. DANIEL DRAKE.

From a very interesting and eloquent Discourse on the Life, Character, and Services of Dr. DANIEL DRAKE, by Prof. GROSS, published in the February number of the *Western Journal of Medicine and Surgery*, we take the following particulars.

Dr. Drake was born at Plainfield, Essex County, New Jersey, on the

20th October, 1785. Two years and a half afterwards, his father emigrated to Kentucky, and settled at Mays Lick, twelve miles south-west of Maysville. The educational advantages of young Drake, during his boyhood, were very limited. In the autumn of 1800, at the close of his fifteenth year, he was sent to Cincinnati, and entered the office of Dr. Goforth, of that city, as a private pupil. He remained with this gentleman for four years, when he received from him an autograph diploma, under the sanction of which he practiced medicine for the next eleven years, "when it was corroborated by another from the University of Pennsylvania." In the autumn of 1805, he attended a course of lectures at the latter Institution, under Rush, Wistar, Barton, Physick, and Woodhouse. On his return, he practised medicine a year in Mason County, Kentucky, but soon afterwards went to Cincinnati. In 1807, he married; and after some years of professional occupation in Cincinnati, he, in 1815, attended a second course of lectures at the University of Pennsylvania, and graduated at the end of the session.

Dr. Drake's long and varied career, as a teacher of medicine, now commenced. A year after receiving his degree, he was appointed Professor of *Materia Medica* in the Medical Department of Transylvania University at Lexington. In 1819, he founded the Medical College of Ohio, at Cincinnati, he himself taking the Chair of Medicine. Misunderstandings with colleagues, however, resulted in Dr. Drake's retirement from this School; and in 1823, he resumed his old chair at Transylvania, passing two years later to the Chair of Medicine.

In 1827, Dr. Drake returned to Cincinnati and private practice. But, in 1830, he was called to the Professorship of Medicine in the Jefferson Medical College of Philadelphia, where, according to Dr. Gross, he soon became the most popular Professor in the Institution, which then numbered both George McClellan and Eberle in its faculty. "Had Dr. Drake remained in the Jefferson School, no one can doubt," Dr. Gross observes, "that the brilliant success which has since awaited it would have been attained years before." But the restless energy of Dr. Drake's character impelled him to new schemes, and he returned to the West; and, after two unsuccessful attempts at medical organizations, in 1835, we find him at the head of a new and able Institution, with brilliant prospects—the Cincinnati Medical College. Dr. Drake, it appears, had greatly at heart the success of this enterprise. But after a brave struggle of four years, with classes of encouraging numbers, this organization was obliged to "succumb to the want of endowment."

Shortly after, he received an invitation to a chair, created with especial reference to him, in the University of Louisville, viz.: that of

Clinical Medicine and Pathological Anatomy. He filled this chair till 1844, when he was transferred to that of Medicine. In 1849, he withdrew from Louisville, and returned to Cincinnati to fill the chair of Medicine in the Medical College of Ohio. But "troubles either real or imaginary" brought Dr. Drake's career to a close here, after a single session. In 1850 we find him again at Louisville, and, in 1852, he finally left it, "once more to re-enter the Medical College of Ohio, now re-organized with an abler Faculty, and under brighter auspices." But the chequered career was now to be closed; and, "just at the opening of the session, full of hope and expectation about the classes and prospects of the Institution, the hand of death was laid upon him."

Dr. Drake was distinguished as a philanthropist, and was instrumental in founding many of the valuable benevolent institutions of the West. He was also foremost in promoting schemes of public improvement, and took a decided and active part in several of the great political questions of the day. He was emphatically, one of the *public men* of the West; a marked and influential citizen.

As a writer, he was voluminous, original, and industrious. He was frequently connected editorially with the medical journals of the West, and a steady contributor to them during his whole medical career. "But the most splendid exhibition of his genius is his work on the Diseases of the Interior Valley of North America, an enduring monument of his industry, his research, and his ability." As early as 1822, he issued a circular, requesting the co-operation of his professional brethren of the South-west, in furnishing material for this work.

"In 1837, fifteen years after the publication of his circular, he found, for the first time, sufficient leisure to enter vigorously upon the collection of materials for his long contemplated work. In the summer of this year, accompanied by his two daughters, he visited a portion of the South for that purpose, during a tour of about three months. In 1843, he made a second tour, embracing Louisiana, Florida, Mississippi, Alabama, and the Gulf of Mexico; and subsequently he explored the interior of Kentucky, Tennessee, the two Carolinas, Virginia, Western Pennsylvania, New York, Illinois, Indiana, Michigan, Iowa, Wisconsin, Missouri, the great Lakes and Canada. Wherever he went his fame preceded him, and he was kindly received by his professional brethren, many of whom vied with each other to show him attention and hospitality. It was during his absence upon these missions, which he performed with the zeal of an apostle of science, that he wrote those numerous and interesting travelling editorials, as he styled them, for the *Western Journal of Medicine and Surgery*. These epistles, which form so conspicuous a feature of that periodical during the time referred to, were usually descriptive of the manners, habits, and diseases of the people among whom he wandered, of the climate, scenery, and productions of the country, and,

in short, of whatever seemed, at the moment, to strike his fancy, or interest his mind.

"The materials thus collected were gradually digested and arranged, and finally presented to the profession, in the summer of 1850, under the elaborate title of "A Systematic Treatise, Historical, Etiological, and Practical, on the Principal Diseases of the Interior Valley of North America, as they appear in the Caucasian, African, Indian, and Esquimaux Varieties of its Population." The work, the first volume of which only has yet appeared, is illustrated by numerous charts and maps, designed and engraved at great expense, and was printed and published at Cincinnati under the author's immediate supervision. A second volume, the composition of which was nearly completed at the time of his decease, will be issued during the ensuing summer, under the care of a competent editor, and will be entirely devoted to subjects on practical medicine. The two together will constitute a monument of the genius and industry of their author, as durable as the mountains and the valleys, whose medical history they are designed to portray and illustrate. The toil and labor expended upon their production afford a happy exemplification of what may be accomplished by the well directed and persistent efforts of a single individual, unaided by wealth, and unsupported by the patronage of his own profession.

"It was originally the intention of Dr. Drake to comprise his work in two volumes; but as he progressed with the elaboration of his materials, he found that he should have a sufficiency for another; which now, that he is dead, will, of course, never be completed. The treasure remains, but the key wherewith to unlock it is gone.

"Every where at home the work received the most favorable commendation. All concurred in pronouncing it a performance of stupendous labor, and not a few of the leading journals declared that it was the most original production that our country had yet furnished. One of the most beautiful and appreciative notices of it appeared, soon after its publication, in the *Daily Louisville Journal*, from the pen of my colleague, Professor Yandell. Dr. Stillé, Chairman of the committee on Medical Literature, alluded to it in terms of high commendation in his report to the American Medical Association, at their meeting at Cincinnati, in May, 1850. Abroad, its appearance was hailed with similar feelings. The *British and Foreign Medico-Chirurgical Review*, one of the ablest and most discriminating periodicals of the day, published a long and highly flattering notice of it."

Dr. Gross pays the following beautiful tribute to the private virtues of his distinguished associate—admitting at the same time, however, that his ardent and positive temperament had made him enemies as well as warm, staunch, and admiring friends.

"His conduct, in all the relations of life, was most exemplary. In his friendships, usually formed with much caution, he was devoted, firm, and reliable, as many who survive him can testify. His attachments were strong and enduring. Few men, as he himself declared to me only a few months before his death, possessed so many ardent and faithful

friends. His social qualities were remarkable. He loved his friends, enjoyed their society, and took great pleasure in joining them at the domestic board; where, forgetting the author and the teacher, he laid aside his 'sterner nature,' and appeared in his true character, plain and simple as a child, cheerful, amiable, and entertaining. It was during such moments, which served to relax the cords of his mind, and fit it for the renewal of its labors, that he shone to most advantage. His conversational powers on such occasions, as well as in the drawing-room, although superior, were not equal. Like all great and busy men, he had his cares and annoyance, his hours of depression and despondency, his fits of absence and restlessness."

MEDICAL NEWS.

DR. DRAKE'S WORK.—The preparation of the second volume of Dr. Drake's work "On the Diseases of the interior valley of North America," has been entrusted to Dr. S. Hanbury Smith of Cincinnati, a gentleman who, by his varied accomplishments and intimate relations with the deceased, is most admirably qualified for this undertaking. It will probably be completed next fall.

NEW YORK UNIVERSITY.—We learn that Dr. M. Clymer has resigned the chair of Theory and Practice of Medicine in this Institution, and that Dr. John A. Swett has been appointed in his stead.

THE OPIUM TRADE.—We are pleased to receive a copy of the new edition of a valuable pamphlet on this subject by Dr. NATHAN ALLEN, of Lowell, Mass.

We learn that he is preparing an article upon the abuse of opiates in Great Britain and the United States, and that he will be greatly obliged to merchants, druggists, or members of the medical profession who will communicate to his address, as given above, any facts bearing upon this subject.

The sixth annual meeting of the AMERICAN MEDICAL ASSOCIATION will be held in the city of New York on Tuesday, May 3, 1853.

The secretaries of all societies and other bodies entitled to representation in the association, are requested to forward to the undersigned correct lists of their respective delegations as soon as they may be appointed; and it is desired by the committee of arrangements that the appointments be made at as early a period as possible.

The following is an extract from Art. II of the constitution: "Each local society shall have the privilege of sending to the association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half of this number. The faculty of every regularly constituted medical college or chartered school of medicine shall have the privilege of sending two delegates. The professional staff of every chartered or municipal hospital containing a hundred inmates or more, shall have the privilege of sending two delegates; and every other permanently organized medical institution of good standing shall have the privilege of sending one delegate."

EDW'D L. BEADLE,

One of the Secretaries, No. 42 Bleecker st., New York.

QUEEN'S COLLEGE FOR LADIES.—Medical students who diligently attend the courses of lectures prescribed by the licensing bodies, consider themselves well worked, although at no time are they advised to attend to more than four subjects during the same six months, or more than four lectures on the same day. And, in verity, to keep up the attention for four consecutive hours is no small mental exertion. We remember a teacher of medicine—himself in his early days one of the most distinguished students in one of the largest medical schools in the world—saying that six hours daily mental effort was as much as he ever knew a man capable of for any length of time, without injury to his mind or body. But, however different may be the opinions on this point in reference to men, we should have supposed, that, in regard to the weaker sex, the statement would have admitted of no question,—that all reasonable men would have been agreed on the impropriety of subjecting young females to a mental training exceeding in severity that imposed on students of medicine.

Our attention has been called to this subject by a physician who informs us, that he has had occasion to see more than one of the lady pupils at the Queen's College, in Harley street, in consequence of their having yielded to the temptations to over mental exertion held out to them at that institution.

The Queen's College is especially intended for young ladies qualifying themselves as governesses. The instruction is conveyed to the pupils by means of lectures, delivered by men of the highest reputation in the branches of science and literature they respectively teach.

Among the subjects discoursed on to these young ladies are Greek, Latin, Geometry, Algebra, Natural Philosophy, Astronomy, Mental and

Moral Philosophy, Logic, and Theology, Botany, Chemistry, Geology, and the useful arts!!!

For five or six hours in succession are girls, between the ages of 17 and 20, daily lectured to at the Queen's College on these subjects,—subjects, it will not be doubted, calling for as much reading, and as great mental exertion, as any comprised in the curricula of the Apothecaries' Society, the College of Surgeons, the College of Physicians, or the Universities of Dublin, Edinburgh, or London. Who can wonder that the result is what we are told it is? A paper is now being extensively signed by the leading members of the Profession, expressive of their conviction, that a knowledge of the Principles of Physiology is most desirable for schoolmasters. May we not add, that a knowledge of cerebral physiology is essential for those who undertake the management of such institutions as that, on *one* fault of which we are now touching?

It is really too bad, on the part of the Committee, to offer to those who lay the foundation of serious organic diseases in their "College," the beggarly reward of a certificate, stating that they are mentally qualified to undertake the duties of a governess. Why not enter into an arrangement with the Senate of the University of London, by which their pupils might obtain a Degree in return for their ruined health? Perhaps a real advantage might follow—Female Bachelors and Masters of Arts, or rather Maids and Mistresses of Arts, might receive somewhat higher salaries, and enjoy a little more consideration in the families of the noble and wealthy than these certificated damsels; they might possibly, then, be as highly estimated and as well paid as ladies' maids and cooks. With this, however, we have nothing to do; but it is a duty we owe to society to call the attention of the Committee to the sacrifice of human health and life they are offering up, with no other practical result, that we can see, than the supplying those who require to have their children highly educated at a low price, with governesses who will do the work for which several masters ought to be paid.—*London Med. Times and Gaz.*

DR. MARSHALL HALL.—Of course every medical reader is familiar with the name of this distinguished English author. He is now at Washington, accompanied by his lady and son. After visiting the South, he proposes to return and travel over the West extensively, and next season visit the Eastern States. Although considerably advanced in years, Dr. Hall is a laborious student, a close observer, and may justly be called one of the most celebrated medical writers of the age. We bespeak for him the attentions of the professional brotherhood wherever his steps may be directed.

BULLETIN OF PUBLIC HEALTH.—Some alarming rumors have been in circulation at Paris : we may give our assurance, that all anxiety as to the state of the public health is without foundation. Information, upon the accuracy of which we may rely, authorises us to say that the choleriform affections which have presented themselves lately at the hospitals have not exceeded the number twelve during the last six months, and that such is about the usual proportion to other cases at this season. With one exception these cases were slight ; the principal symptoms characteristic of Asiatic cholera were wanting, and the patients all recovered. One single circumstance was calculated to arouse public attention, namely, five cases of this nature presented themselves at the Hôtel Dieu upon the same day the week before last. The symptoms, however, yielded to proper treatment. The influenza (*la grippe*) has prevailed at Paris since the last fortnight of December, and has attacked, as usual, a large part of the population. As usual, too, but perhaps rather more strongly marked in the present epidemic than in any of the preceding, the disease has presented itself under two forms, a pectoral form, and an intestinal form. Under this last form it gives rise to colic, purging, to a prostration of strength most marked, to change in the features, to general loss of temperature, symptoms which recall, in reduced proportions, some of the phenomena of Asiatic cholera. But these accidents yield wonderfully to the employment of some diffusible stimulus, viz., infusions of peppermint and chamomile, and to the administration of opium in draughts or lavements. Opium is most useful in arresting these symptoms, which do not resist treatment nearly so much as those accompanying the pectoral form of "*la grippe*," the progress of which, usually without danger, it is difficult to stop.

It is very true there are, at the present moment, a great number of sick in the hospitals ; supplemental beds have been put into the Hôtel Dieu, and it is feared a yet larger number will be required. This fact arises from two causes. First, the suppression of the temporary hospital of Bon Secours ; secondly, the exceeding mildness of the winter, which has permitted the continuance of the immense works now in progress at Paris, and has consequently retained a considerable number of laborers who usually go back at this season to their homes. To resume, in spite of "*la grippe*," in spite of the crowded state of the hospitals, where there are many cases of typhoid fever, nothing justifies the apprehensions spread throughout the public mind. Asiatic cholera does not exist in Paris. It is retiring daily from central Europe, and every thing confirms us in the hope, which we expressed last November, that the epidemic of Poland and Russia would die in the place of its birth.—*London Med. Times. and Gaz., from Union Médicale.*

HISTORY OF CORSETS. By M BOUVIER.—The Academy of Medicine (Séance du 25 Janvier, 1853, Présidence de M. Bérard) feeling with propriety that no subject affecting the health is below consideration, has given its attention to a report from M. Bouvier upon ladies' stays. The work is divided into two parts; the first, now before the public, being the history of stays. The report bears especially upon stays without seams and without a mechanical busk. The learned author, who seems to have ransacked both ancient and modern history for information upon so absorbing a matter, arrives at the following conclusions.

1. The history of the dress of the principal people of antiquity shows that the want of a retentive garment, more or less constricting, round the trunk in the female was felt in ancient as well as in modern Europe.

2. In other times, as now, women have been disposed to overdo this circular constriction, to the detriment of their health.

3. In the history of modern civilization, one sees, after the relinquishment of the ample tunic of the Roman ladies, the figure first simply surrounded in a well-fitting corsage; then inclosed and bound in a sort of cuirass, called "*corps à baleines*;" and, lastly, brought out and supported by the present corset, the last form of this special garment.

4. Although corsets, when improperly employed, may be prejudicial, yet, when well made and well adjusted, they have not the injurious effects usually ascribed to them.

5. It is an error to attribute the constriction of the lower part of the chest to the influence of stays. A constriction is normal, within certain limits, in both sexes, and subject to vary from other causes than the pressure exercised by this article of dress.

6. There is no proof that the use of corsets produces deformity of the vertebral column.

7. Not only should motives deduced from aesthetics and from the social destination of woman induce the physician to permit the use of corsets, under proper restrictions, but, moreover, there are many circumstances, such as the volume of the bosom, the relaxation or the distension of the muscular wall of the abdomen, the habitual bending of the trunk, the lateral deviation of the spine, etc., which give formal indications for the employment of this sort of bandage, whether upon hygienic principles, or as an aid to cure certain lesions.

The second part of this contribution to medical literature is to be presented at the next *séance*.—*London Med. Times. and Gaz.*, from *Union Médicale*.

RECORD OF MEDICAL SCIENCE.

PATHOLOGY AND PRACTICE OF MEDICINE.

Clinical Lecture on Laryngeal and Throat Affections, delivered at King's College Hospital. By ROBERT B. TODD, M. D. F. R. S., Physician to the Hospital.

GENTLEMEN,—You have lately had the opportunity of observing two cases, of the disease of the larynx, the other of an affection of the mucous membrane of the fauces, which will enable me to bring these subjects under your notice to-day.

Let me first remark, with respect to laryngeal diseases in general, whether it be acute or chronic, that it is very much influenced by diathesis, both in its origin and in its duration. This is very manifest in the case of the strumous as well as of the gouty diathesis. Persons of either of these forms of constitution, when once they have been attacked with laryngeal inflammation, find it very difficult, sometimes, indeed, impossible, to shake off the disease.

One of the most formidable of the acute affections of the larynx, happily less frequently met with now than formerly, is the inflammatory or membranous croup,—a disease which is characterised by the rapid formation of a layer of coagulable lymph, forming a false membrane, that moulds itself to the interior of the larynx, and will extend down the trachea, whence it is sometimes called “cynanche trachealis,” even into the bronchial tubes. The pathology of this disease is not as yet by any means settled; but it may, I think, be said, that the true membranous croup is, of all laryngeal diseases, the least associated with peculiarity of diathesis. Why it is in so marked a manner a disease of childhood has received no explanation. We have in adult life a disease somewhat analogous to it, although affecting the pharyngeal rather than the laryngeal membrane. I mean that disease which is accompanied by a membranous exudation on the mucous membrane of the velum and back of the pharynx, which the French have designated *diphtherite*—a malady in close alliance with erysipelas. Can it be that the cause and the pathology of diphtherite and of croup are alike? This subject is one which demands careful investigation, and the more so as the results of our ordinary means of treating croup are far from being satisfactory.

One of the most common forms of laryngeal disease is that which is connected with the strumous or tubercular diathesis—this is also known as laryngeal phthisis—it is usually associated with tubercular deposits in the lungs. That form of cachexia which is induced by the syphilitic poison will also often give rise to laryngeal disease, generally chronic, but sometimes exhibiting very acute and urgent symptoms. These two forms of chronic laryngeal disease may be confounded the one with the other.

Erysipelas may affect the larynx, and give rise to the most serious

consequences. It is well known that the erysipelalous poison is very prone to attack the mucous membrane of the fauces. From that the erysipelas may spread either forwards through the nostrils to the face and head, or backwards and downwards to the larynx. Erysipelas of the larynx is apt to induce a rapidly œdematous condition of the submucous areolar tissue, giving rise to that fearful malady, acute œdema of the glottis, by which the chink, so important to life, is very quickly encroached upon, and the difficulties of a severe and rapid dyspnœa, super-added to the depressing influence of the erysipelalous poison, speedily destroy life.

To these affections I may add an inflammatory condition of a chronic form, not destructive to life, nor to the tissues of the larynx. It is a chronic inflammation of the mucous membrane, very often described as a relaxed condition, with considerable enlargement of the mucous follicles. This affection is often connected with the lythic or gouty diathesis, and it likewise frequently occurs in debilitated states of the system from various causes. It is sometimes associated with a peculiar state of the nervous system, a form of hypochondriasis. That condition of throat which is so apt to occur in clergymen is of this kind.

I shall illustrate to-day the tubercular affection of the larynx, and that relaxed condition of its mucous membrane to which I have last referred.

The first case which I shall bring under your notice affords a good example of disease of the larynx occurring in the tubercular diathesis.

The subject of this affection was a girl of the name of Reynolds, in Lonsdale Ward, (Vol. xxxiv., p. 160;) she was 18 years of age, and of delicate health. The history of her case afforded abundant evidence of the existence of phthisis in her family, as she had lost her mother and one sister by this disease.

The affection from which she was suffering has been badly named "laryngeal phthisis," because the name would lead you to suppose that the disease was limited to the larynx; whereas, I believe, it never occurs without the presence of tubercles in the lungs, either in the crude or softened state. In some cases, the laryngeal symptoms are the first to manifest themselves. A patient having indications of a phthisical tendency, is found on inquiry, before any symptoms of tubercle had manifested themselves, to have been the subject of frequent slight affections of the larynx, accompanied by hoarseness and cough, and attributed to exposure to changes of temperature.

In other cases, the symptoms of phthisis develope themselves before the laryngeal symptoms commence. In the present instance, however, the affection of the larynx appeared first, and upon superficial examination at an early period, the diseases might have been viewed as one of laryngitis simply.

The patient told us that, in November last, soon after exposure to the wet and cold, she became troubled with a feeling of soreness about the throat, which was followed by hoarseness and loss of voice, and, at the same time, she became affected with a dry, suffocating cough, accompanied by severe pain in the region of the larynx.

Pain referred to the larynx is one of the most constant symptoms of the disease, and will rarely be found entirely absent. Usually the pain causes great distress to the patient. The affection of voice varies according to the seat of the disease. If the epiglottis and adjacent folds of membrane only are involved, the voice will probably not suffer much; but, if the inflammation extend downwards, the affection of the voice will vary in severity according to the extent to which the ventricles of the larynx or the vocal cords are involved.

A symptom soon appeared in our patient which must always be regarded in a serious light; she became subject to difficulty of deglutition. The report says, that she was quite unable to swallow any solid food, and even the passage of liquids produced considerable pain, accompanied by a choking sensation, and that the food was frequently forcibly ejected from the mouth in the effort at deglutition, and that much of it passed through the posterior nostrils.

Now, you may naturally ask, what has the larynx to do with deglutition; it is true that, in swallowing, provision is made to protect the glottis, but how can disease of the larynx create dysphagia? A very little consideration of the close connexion existing between the pharynx and the larynx, and also of the intimate relations of the nerves which supply both, will furnish the solution of this problem.

You know that the rima glottidis lies immediately behind and beneath the root of the tongue, and that the epiglottis stands up between both, and seems to protect and overhang the glottis. In deglutition, the root of the tongue and the rima glottidis are forcibly compressed together, and the epiglottis, lying between them, also suffers compression, and is made thereby to cover the whole chink of the glottis. This is the mechanism by which, in deglutition, food is prevented passing into the larynx; this close apposition of the root of the tongue to the rima glottidis serves to close the latter aperture completely, provided the epiglottis retain its normal flexible and elastic state. But if the epiglottis be swollen or thickened, and rigid, or even simply highly sensitive and irritable, as from ulcers on its surface, then, by its intervention, that perfect apposition of the root of the tongue to the glottis is prevented, on which perfect closure of the glottis, and, consequently, perfect deglutition, depend.

The epiglottis may have been removed, as in Majendie's experiments and observations; and, provided no material injury have been done to the neighboring textures, the apposition to which I allude may be effected, and the glottis protected. But it rarely happens, after chronic destructive disease of the epiglottis, that the neighboring textures have so far escaped as to allow full play to the lingual and pharyngeal muscles, so that they may perform freely, and without impediment, the actions necessary for deglutition.

Disease of the larynx, then, gives rise to difficulty of deglutition, when the epiglottis, or the arytaeno-epiglottidian folds of mucous membrane, but especially the former, are involved in the disease. And the degree of dysphagia is greatest when the epiglottis is swollen or so irritable that the actions necessary for deglutition are impeded through a mechanical

obstacle, or through extreme sensibility of the surface of the mucous membrane.

The nature of the dysphagia, in cases of this kind, deserves your attention. It is not only often extremely painful, and the actual effort of swallowing difficult, but the whole act of deglutition is so deranged, that the usual safeguards to the larynx below, and to the nares above, are greatly interfered with. Hence, in many instances, and especially when the epiglottis is rigid and swollen, the attempt to swallow is followed by great irritation of the glottis and by a powerful expiratory effort, by which the food or fluid is forcibly ejected upwards, partly through the mouth, and partly, and most painfully, through the posterior nares. This kind of inversion of the act of deglutition, when it frequently occurs, and is associated with other signs of laryngeal disease, is always an indication of a diseased state of the epiglottis. This feature, then, of difficult deglutition necessarily directed our attention very much to the state of the larynx in our patient.

But to proceed with the history of the case. Since the commencement of her attack, she had lost flesh considerably, and had been troubled with perspirations at night. She has frequently suffered from pain between her shoulders, and her breath has been gradually becoming more and more short. She never spat blood. As winter came on the pain returned; she lost her voice, so that she was only able to speak in a whisper, and her breathing became stridulous,—a symptom distinctly pointing to the larynx either as primarily or secondarily diseased. This symptom never disappeared; and while she was in the hospital, the noise of her breathing was so loud and peculiar, that, upon coming into the ward, your attention could not fail to be arrested by it. At the same time she suffered from a troublesome hacking cough, accompanied with the expectoration of a greenish muco-purulent matter; her deglutition became worse, and she was unable to swallow even very small quantities of liquids or solids without considerable difficulty and pain.

The first question which proposed itself for our consideration, was whether the laryngeal symptoms arose from the occurrence of certain morbid changes in the larynx itself,—in fact, were dependent upon disease of the larynx,—or whether they were caused by the pressure of some intrathoracic tumor on the left recurrent nerve. That pressure on the recurrent is quite sufficient to give rise to such symptoms, has been abundantly proved by cases of thoracic aneurism. The aneurisms which usually produce such pressure are small, globular dilatations of the vessel, occurring about the bifurcation of the trachea.

Some years ago, I recollect meeting with a case of this kind which exhibited all the more prominent symptoms of chronic laryngitis. The patient was brought into the ward just as I was leaving it after my visit, and I had no opportunity of making a sufficiently minute examination of her at that time. There were great emaciation, stridulous breathing, dyspnœa, with chronic cough, hoarseness, and pain referred to the larynx. Unfortunately, the patient died very soon after her admission, and probably in consequence of exhaustion brought on by moving

her. At the *post-mortem* examination, we found an aneurism situated just at the bifurcation of the trachea, and pressing upon the left recurrent nerve so forcibly as to cause complete obliteration of the nerve tubercles; hence there was complete paralysis of the muscles of the larynx supplied by the nerve of this side, and they were found small, ill-nourished, and shrivelled.

Some months ago we had a remarkable case in Rose Ward, as to the precise nature of which we had some doubt. The man suffered from symptoms clearly referrible to the trachea and larynx. He was troubled with violent irritative cough, and the expectoration was tinged with blood; but the voice was slightly affected, and the breathing was not stridulous. The diagnosis lay between ulcerative disease of the trachea and the existence of a small aneurism pressing on the recurrent nerve. The patient died suddenly by hæmorrhage; and a little above the bifurcation of the trachea we found a small perforating ulcer, which had incidentally been caused by the pressure of an aneurism of the arch of the aorta against the trachea.

How, then, are we to make the diagnosis between actual laryngeal disease and that deranged state of the larynx which stimulates inherent disease of the organ, but which really depends upon the existence of an irritating or paralyzing cause at a distance from the larynx?

To determine affirmatively the existence of inherent disease of the larynx, you must not trust solely to the symptoms. Those symptoms you will find to be impaired voice, breathing difficult and stridulous, and the dyspnœa, although constant within certain limits, yet becoming much exacerbated from time to time, pain referred to the larynx, and more or less difficulty of swallowing. Now, all of these symptoms may be caused by the pressure of an aneurism or other intrathoracic tumor on the recurrent nerve.

You must add, therefore, to the examination of symptoms, inspection with the finger, which alone will often enable you to decide.—With the forefinger of the right hand you will generally be able to reach the epiglottis with great ease, and you may often feel its laryngeal surface; the finger may be passed along the aryteno-epiglottidian folds, and any thickened or roughened state of the mucous membrane covering these parts can be readily felt. When the epiglottis is much thickened, you will find it more or less rigid, with edges rounded, or it may be so swollen as to appear like a small globular tumor between the tongue and the larynx. If the mucous membrane covering the epiglottis be diseased, the surface will feel uneven or rough, or it may be hollowed out into small depressions, with irregular and perhaps callous edges. Generally, when the mucous membrane of the larynx is affected with chronic inflammation, that of the fauces is often found to sympathize with it; hence, upon looking into the mouth, you will often notice an injected state of the mucous membrane covering the back of the mouth and throat. When ulcers exist in the larynx there will usually be found a certain amount of purulent expectoration, which may in part, however, come from the lungs, if, as usually happens in cases of laryngeal phthisis, these organs are also affected with tubercular deposit. On the other

hand, if the lungs be found perfectly healthy, it may be inferred that all the secretion is derived from ulcers in the larynx, which is the case in syphilitic ulceration uncomplicated with other disease. In tubercular disease, expectoration is only met with in cases where the tubercles are being softened and broken down. In the crude state, before the tubercular deposit has undergone disintegration, there is no expectoration whatever from the lungs.

If the laryngeal symptoms are caused by an intra-thoracic tumor, there can be no difficulty in the diagnosis when there is a bulging or prominence to be found in any part of the chest; but if the tumor be small, and situated near the bifurcation of the trachea, considerable difficulty will often be experienced before any conclusion can be arrived at, and in such cases the diagnosis will rest in a great degree upon negative evidence. The absence of pain referred to the larynx, and the absence of purulent secretion, will to a certain extent direct the attention to the interior of the thorax for an explanation. The degree and kind of dysphagia will sometimes help you. Generally speaking, the dysphagia is not nearly so great nor so prominent a symptom where there is intra-thoracic tumor, as in cases of laryngeal disease; and it differs also in kind. In the latter, the dysphagia is evidently obstructive, so to speak, and the food is apt to go the wrong way; it sputters back into the mouth and into the posterior nares; but in tumor cases there is a feebleness and difficulty in using the pharyngeal muscles while the passage is quite free and unobstructed.

The respiratory movements in aneurismal cases are more hurried and otherwise impaired than when the larynx only is affected, although air passes freely into the lungs, or the greater part of them. In laryngeal cases the respiratory affection depends upon the amount of obstruction which exists to the passage of air into the lungs, from the diminution of the size of the glottis; and, in these cases, the dyspnoea arises from the want of air. In these laryngeal cases, auscultation indicates feebleness of breathing and faintness of respiratory murmur, which are uniform if there be no localised tubercular deposit. In intra-thoracic tumor you may have general-rhonchus, accompanying a paroxysm of dyspnoea; or, if the tumor press on one bronchus more than another, the ronchus will be greatest on that side, or the sounds of breathing most feeble; it will be plain that less air gets into that lung than into its fellow. In the present case we had no difficulty in coming to a conclusion, the tubercular diathesis being well marked both in the patient's history, and also by the presence of physical signs; moreover, the patient's age was against the presence of aneurism, and this is a point which will often prove of valuable assistance to you in pronouncing an opinion, for aneurism very seldom occurs before the age of thirty.

In our patient, it was a question at first whether the disease of the larynx was syphilitic or tubercular. There was no history of syphilis to be obtained from the girl herself, but this, as you may easily conceive, could not be considered as conclusive against the syphilitic origin of the malady. There were, however, no other marks or symptoms of syphilis. However, there could be no doubt about the existence of tuber-

cle. Pthisis was traced in her family history, and the upper part of the left side of chest yielded a dull sound to percussion, both in front and behind. The breathing in this situation, although very feeble, was distinctly tubular, and there was, so far as the sign could be depended on in a case where voice was at a minimum, increased resonance of voice. On the right side, in the situation of the apex of the lung, there was ronchus and some crepitation.

From all these symptoms and signs we set the case down as one of tubercular disease of the lungs, in which there was a chronic thickening of the mucous membrane of the larynx and epiglottis, and probably ulceration in or near the ventricles of the larynx, impeding the movements of the chordæ vocales. Although in laryngeal cases the precise seat of the disease may generally be most accurately assigned, we cannot always predicate the particular nature of the affection, which may sometimes be merely thickening, and sometimes ulceration of the mucous membrane. I know of no definite sign which will enable us to diagnose with certainty the presence of ulceration, but it exists in a large number of cases of laryngeal disease connected with pulmonary pthisis, and, if there be blood and pus in the sputa, it will probably be always found. In tubercular ulceration, the ulcers appear to be formed by the irritation and inflammation consequent upon the deposit of tubercular matter in the follicles of the mucous membrane. At the same time, Louis holds that laryngeal and tracheal ulcerations may be caused simply by the irritation produced by the contact of the tubercular matter expectorated from the lungs, and I have more than once observed a fact which certainly seems to bear out this explanation. I have found crude tubercles in one lung, and softened tubercles in the opposite lung; the bronchus connected with the lung in which the tubercles were softened, exhibited an ulcerated state of the mucous membrane, while the bronchus of the opposite side was entirely free from them, which, no doubt, might be attributed to the passage of sputa along the one, and not along the other.

In our patient we inferred the existence of crude tubercles in the left lung, but we thought that in the apex of the right lung softening of tubercles had taken place, and that possibly a small cavity might have been formed. I thought that in this case the larynx was very likely affected with aphthous ulcerations, in their nature very similar to those aphthous ulcers which are so common on the tongue and fauces. The mucous membrane of the epiglottis felt as if it were considerably thickened, and no doubt the same condition prevailed in that covering the lips of the glottis, so that the chink became in this way much narrowed, and a considerable impediment was offered to the free entrance of free air into the lungs. On the epiglottis I thought I could detect a number of small ulcerations, more particularly on its laryngeal surface. Such ulcerations would readily increase the difficulty of deglutition and the pain which the girl suffered when anything passed over the epiglottis. The mucous membrane was so irritable, that when the patient attempted to swallow liquids, a great quantity was often ejected through the posterior nares.

The symptoms did not vary much in the further course of the case. Treatment, as you would expect, was of very little use, and all that we attempted to do was to uphold the strength with nourishing food, and to relieve the distressing pain and irritability of the throat, which prevented her from sleeping, by giving small doses of opium at night.

Occasionally, to relieve the extreme irritability of the larynx, a sponge, tied on a probang, and soaked in a strong solution of nitrate of silver, was passed down to the larynx, so as to apply the solution well to the epiglottis, and to allow some of it to trickle down into the glottis. This application was always followed by considerable relief, as the patient always expressed herself as much better after each application, and her pain was relieved, although only temporarily.

The difficulty of swallowing and the dyspnœa increased in severity, and the vomiting continued unabated, so that she was unable to take much nourishment. The exhaustion increased, and, on the 25th, she was attacked with convulsions, from which she never rallied.

In the upper lobe of the right lung, a cavity about the size of a filbert was found, and was filled with pus. The remainder of the upper lobe, of the same lung, was infiltrated with tubercular matter. The upper lobe of the left lung contained crude tubercles, so that tubercular disease was not much advanced. We found numerous aphthous ulcerations on the mucous membrane of the ventricles and cordæ vocales, and also upon the laryngeal surface of the epiglottis, and these ulcers you may now see in the preparation. The mucous membrane covering the epiglottis and upper part of the larynx was much thickened, and the glottis very much contracted in size.

In reference to the frequency with which ulceration is met with in different parts of the air passages, Louis states, that, out of seventy-one cases, there were found thirty-one in which ulcers were found in the trachea, twenty-two in which the larynx was similarly affected, and in eighteen ulcers were found upon the epiglottis.

I shall now notice another case, which is more deserving of your attention than the last, inasmuch as it is an example of a very common affection of the fauces and larynx, and one which is curable, or at least very manageable. The patient is a man named Osborne, in Sutherland Ward. His symptoms are a harsh, irritative cough, with slight mucous expectoration, in quantity not at all proportionate to the violence of the cough, and also a considerable degree of hoarseness of voice. Upon looking into his mouth you find the mucous membrane of the faucial region exhibiting a dusky red blush, and you will observe a number of red points, as of raised papillæ, which are the mucous glands of the velum and back of the pharynx, in an enlarged and swollen state. The appearance of the mucous membrane generally, was one of great laxity, and the uvula was more or less elongated. In some cases the uvula is so much increased in length that it reaches to the glottis, and excites irritative cough. The inflammation upon which this state of mucous membrane depends, never leads to the formation of pus or lymph. It may, however, run into a slightly œdematous state, but this is rare; and

it is not always limited to the pharynx only, but often extends to the larynx and trachea, and sometimes into one or more bronchial tubes. This kind of inflammation is very common in men of gouty diathesis, and in women of a relaxed habit who do not take proper care of their health. Such persons you will often find complaining of being very subject to attacks of hoarseness, and liable to catch cold upon the slightest exposure, and even without any apparent cause. The hoarseness will remain after the other symptoms of the cold have gone for a considerable period, in spite of various forms of treatment adopted for the cure, and it is accompanied with a troublesome cough which harasses the patient very much. Persons laboring under such symptoms as these are often treated for bronchitis, and take large quantities of expectorant and other medicines for the relief of the cough. The seat of the irritation upon which the cough depends is thought to be in the bronchial tubes, and its real position (the fauces) is overlooked. On carefully examining a patient laboring under this affection, you will find the lungs quite sound and the bronchial tubes free from irritation. Such being the case, you next proceed to examine the fauces, and you find the swollen, red, relaxed condition of membrane which I have described.

The character and constituents of the cough will help you to distinguish this affection. It is a highly irritating cough; the patient coughs with all his might to dislodge something which irritates the fauces or the larynx and upper part of the trachea. The product of the cough is very trifling, a little saliva and mucous, or throat and nasal mucous, which in London is often mixed with sooty matter. The expectoration is in general infinitely small as compared with the vehemence of the cough. Exposure to cold air always excites and greatly aggravates the cough. The patient often complains that his cough is particularly troublesome on his first going to bed; this may be either from change of temperature from warm to cold, or it may be caused by the assumption of the horizontal position, when the uvula dropping upon the glottis may excite cough.

Cases of this kind are most rife during the cold winter months, and in the early spring, when the cold north or east winds prevail so much.

With regard to our patient Osborne, he was a hard-working, industrious man, with somewhat of the lithic acid diathesis. Three years ago he was admitted into hospital with several small, hard tumors in the tongue, each about the size of a marble, which excited our fears as regards their malignant nature. We were not able to determine any very satisfactory history of syphilis, but they disappeared very quickly under iodide of potassium, and he got perfectly well. In the beginning of this winter, however, he was attacked by cough, which he attributed to exposure to cold. He had been working hard all day in a close room, and in the evening was exposed to the cold air on his return home. This soon brought on irritative cough, which was very obstinate, and did not yield to the usual remedies. On carefully examining the chest, we found no indications of bronchial irritation, but the fauces presented

the injected, swollen, relaxed condition of mucous membrane, with enlarged mucous glands, which I have already described.

I treated him with the local application of the solution of nitrate of silver (ʒss. to the ʒj.) by means of a probang, which was thrust behind the epiglottis, down to the glottis, on the plan of Dr. Horace Green, of New York. The patient can always tell whether the sponge enters the larynx or not, from the great irritation it excites when it passes into the glottis; and in the withdrawal of it the operator feels a certain resistance, caused by the sponge being grasped by the muscles of the larynx, which resistance is not felt when it simply passes into the œsophagus. To pass the sponge into the larynx requires a good deal of steadiness and expertness on the part of the operator. While I fully admit the feasibility of the operation, I nevertheless suspect that the sponge may often pass simply into the œsophagus when it is thought to enter the larynx.

The application was continued every morning for three weeks, either to the glottis or to the neighboring mucous membrane; and partly, no doubt, from this cause, and partly from his avoiding exposure to the cold air, he left the hospital very much relieved, at the expiration of that period.

This case affords a good example of that particular form of affection of the mucous membrane of the throat and larynx which is not benefited by the administration of any drug whatever, but which almost always is relieved by the local application of nitrate of silver, sulphate of copper, or even of simply astringent substances.

This plan of treating affections of this kind has long been familiar to practical men in this country, and was long ago practised very extensively by the late Mr. Vance, of this city. Dr. Green, of New York, had the boldness to pass the sponge into the larynx, and to show that such an operation was a less formidable one than was previously supposed. It is, however, an operation not wholly free from danger, and which is not attended with proportionately good results. I do not hesitate to state this from considerable experience of it. In the vast majority of cases, quite as good effects may be obtained from applying the solution to the neighboring mucous membrane. Pass the probang down to the glottis, and swab well about its neighborhood, and you will do as much good as if you passed the sponge into the rima glottidis; and sometimes you will do more good and cause less irritation.

For some years past I have been in the habit of applying the solid nitrate of silver to the mucous membrane of the fauces, the velum, uvula, and the pillars of the palate; and it may be brought very near to the laryngeal membrane by sliding the caustic along the posterior pillars of the palate, some way down. By this treatment you may obtain results quite as satisfactory as by pushing the probang into the glottis, and in many instances more so; and the plan is, I think, on the whole, safer and more manageable.

I have been supplied by Mr. Matthews, the surgical instrument-maker of Portugal street, with a modification of the ordinary porte-caustique, which is very useful for applying nitrate of silver to the throat.

The caustic is placed in a case made of platina; this moves on a ball-and-socket joint, and may, by that means, be fixed at any angle. Its handle is constructed in telescope fashion, and may be drawn out to any length that can be required; so that, by its aid, you may apply the caustic very low down.

But in the application of nitrate of silver a great deal of caution is necessary. You must take great care not to apply it too freely, else you may cause too much inflammation and ulceration. In some cases, indeed, it is impossible to avoid these consequences; but, with due care, you need never find them so much as to be troublesome, and very often they are salutary. I always make the patient use the precaution of gargling his throat very frequently with the coldest water—iced water if it can be had—for some hours after the application of the caustic; and by these means inflammation is limited, and the parts strengthened.

If time permitted, I could tell you of numerous instances of coughs of the most troublesome kind, and of long duration, which had resisted all the ordinary cough medicines, and yielded to three or four applications of nitrate of silver.—*Lon. Med. Times and Gaz.*

Yeast in Diabetes.—Dr. WOOD stated that he had a case of diabetes now under treatment in the Pennsylvania Hospital, which, in the results thus far obtained, was not without interest in a therapeutic point of view. He would first present a brief sketch of the case, drawn up by his young friend, Dr. R. A. F. Penrose, one of the resident physicians of the hospital, and would then offer a few remarks.

“Mary Ann Cain, born in Ireland, a domestic, aged thirty, was admitted into the hospital, November 16, 1852, for palpitation of the heart. Upon examination, the heart was found acting with unusual energy and quickness; but the sounds were normal. Her general condition was one of extreme emaciation, her weight eighty-three pounds, the pulse frequent but not strong, the tongue red and smooth. She stated that she suffered much from constant thirst, and had a perpetual desire to eat. Attention was directed to the urine; and it was found that she was passing from 18 to 20 pints daily, of a specific gravity varying from 1036 to 1040. On the addition of yeast it fermented briskly. Boiled, after the addition of solution of sulphate of copper and solution of caustic potash, it yielded a reddish-brown precipitate; boiled with solution of potassa alone, it acquired a dark-brown or bistre tint. The case was clearly one of saccharine diabetes.

“Two days after admission, she was placed upon an animal diet, with non-farinaceous vegetables, and one small biscuit three times a day. Cod-liver oil was also directed, and a *teaspoonful of yeast, three times daily, immediately before meals.*

“22d. The quantity of urine now passed in 24 hours was ten pints, and the specific gravity 1022. The thirst and appetite were much diminished. The same treatment continued.

"37th. The patient complained of total loss of appetite, and could not take her cod-liver oil. The tongue was extremely red and inclined to dryness, and there was pain on pressure in the epigastrium. The quantity and sp. gr. of the urine were as at last date. The cod-liver oil and animal diet were suspended, and she was placed upon farinaceous drinks with milk. A pill composed of one grain of blue-mass and a quarter of a grain of opium, was directed four times a day, and the yeast was continued.

"30th. The patient felt much better, her tongue was moister and less red, and the gastric symptoms were much ameliorated. Not finding milk to agree with her, she lived chiefly on oatmeal gruel, with a soft-boiled egg occasionally. The quantity of urine had now been reduced to seven pints in twenty-four hours, and its specific gravity to 1020.

"31st. The patient continues as yesterday, the urine having amounted, in the last period of twenty-four hours, to only six pints; the specific gravity not examined."

Much light, Dr. Wood observed, had recently been thrown upon the pathology of diabetes. The disease is now admitted to be characterized by sugar in the blood, the kidneys being only secondarily affected. The experiments of McGregor proved that sugar exists in great excess in the stomach of diabetic patients after eating, and it may readily be supposed to pass thence into the circulation. Bernard has shown that the liver, in its normal action, produces sugar out of the portal blood, and that this sugar passes through the vena cava, right side of the heart, and pulmonary arteries, into the lungs, where, in a healthy state, it is wholly consumed. Excess in the sugar-producing action of the liver, or deficiency in the sugar-consuming action of the lungs, may be followed by the entrance of saccharine matter into the general circulation, and thus give rise to diabetes. The same physiologist proved that, by irritating a certain point of the medulla oblongata, the liver was made to generate a great excess of sugar, which, escaping decomposition in the lungs, entered the arterial circulation, and passed out with the urine.

We thus perceive that there may be various sources of the saccharine impregnation of the blood. *In the first place*, it may arise from some defect in the gastric digestion, in consequence of which farinaceous and other nutritive substances are converted into glucose or grape-sugar, which remains unchanged; or, *secondly*, from hypertrophy or other diseases of the liver causing an over-activity of the sugar-producing function; or, *thirdly*, from diseases of the lungs, impairing their power of consuming the sugar; or, *fourthly*, from irritation of the nervous centre in the medulla oblongata which appears to control the action of the liver in relation to this product; or, *lastly*, from two or more of these sources combined.

Now, in the case before us, no organic affection of the liver or of the lungs could be detected, and there was no reason to suspect the medulla oblongata; but the smooth, reddened state of the tongue, and

the epigastric tenderness, seemed to point directly to the stomach as the seat of the disease.

In the number of the *Edinburg Monthly Journal of Medical Science*, for October last, it is stated that Dr. Gray, of Glasgow, had been induced to make trial of *rennet* in a case of diabetes, in the hope that, as this body converts sugar out of the body into lactic acid, it might be found to produce a similar change within the stomach, and the lactic acid thus generated might be eliminated from the system, or rather decomposed by the respiratory process. A teaspoonful of rennet was given three times a day. In eight days, the specific gravity of the urine was reduced to 1025, with but a trace of sugar; in twenty-five days, the quantity was four pints, and the density 1022.5, and no sugar could be detected. At the end of six weeks, the urine remained free from sugar, and the patient had so far improved in health and strength as to return to his work.

It occurred to me, observed Dr. Wood, from the results of this case, that yeast might prove equally beneficial, by causing a decomposition of the sugar in the stomach such as it is well known to occasion out of the body, resulting in the production of acetic acid. Being under the impression that in the case now reported to the College, the primary disease probably resided in the stomach, and that the diabetic sugar was generated there, I determined to try the effects of this remedy. The patient had been two days in the house before she was placed under treatment, and during this period no change had taken place in the quantity or character of the urine. It will have been noticed that quickly after the commencement of treatment, a very great change took place in both these respects; the quantity of urine being reduced, in the course of four days, from twenty pints to ten daily, and the specific gravity from 1036 or 1040 to 1022. But the almost exclusive use of animal food may be supposed to have contributed to this result. In consequence of the gastric inflammation, it was necessary to suspend this diet, and to allow the patient to use farinaceous food, the yeast being continued. So far from any increase of urine in consequence of this change of diet, its quantity was still further reduced, so that, upon the last day upon which it was examined, it did not exceed six pints, while the specific gravity was as low as 1020, the quantity having been reduced from twenty pints to about double that of health, and the density from 1040 to that of normal urine. There can be no doubt whatever that the sugar has been very greatly diminished; and there is no cause apparent to which the result can be ascribed except the use of yeast.

What may be the further progress of the case, cannot, of course, be foreseen. Even should we succeed in preventing altogether the elimination of sugar with the urine, it does not follow that the case will end in recovery. The remedy is addressed only to one of the effects; a very important effect, it must be admitted, and itself capable of producing great mischief, but still by no means the whole disease. Nevertheless, if, by the steady use of a remedy so little disagreeable as yeast, we can prevent the abnormal production of sugar, and the exhausting

effects on the system of the excessive secretion of urine occasioned by it, we shall have gained one great point. We shall at least gain time for accurately investigating the source of the evil, and applying such remedies as may offer a reasonable hope of permanent benefit.

Dr. Wood observed, finally, that he should probably take occasion, at a future meeting of the College, to report the further progress of the case; and should have been in less haste at present, had he not thought that the remedial measure had some claims to notice, and been desirous that it should, as quickly as possible, receive an ample trial, so that its merits might be conclusively tested.—*Trans. College of Physicians, Philadelphia.*

EPIDEMIOLOGICAL SOCIETY.

Mr. Grainger read a paper, of which the following is an abstract:

"On the Influence of Noxious Effluvia on the Origin and Propagation of Epidemic Diseases.—Although some diversity of opinion prevails among medical men in reference to epidemic disease, especially on the subject of contagion, all are agreed as to the noxious influence of overcrowding, defective ventilation, and other similar defects, prevalent in populous districts. It has occurred to me, that, without entering into the wide field connected with the nature and operation of noxious effluvia in general, it might not be altogether unprofitable if some elucidation of the facts which have fallen under my observation, both as regards the causation of, and exemption from, epidemic disease, were laid before the members of this Society. No one is more ready than myself to subscribe to the doctrine so well enunciated by my friend, Dr. Carpenter, in his valuable paper *"On the Predisposing Causes of Epidemics,"* that it is not simply the collection and tabulation of facts, nor even mere empirical generalization, that will suffice; it is the principles and laws springing out of them which are demanded, if sanitary investigations are to be raised to the rank of a science. But fully recognising this as constituting the great aim and end of all these researches, and not forgetting the large amount of practical knowledge acquired of late years, it yet appears to me that there is abundant room and ample reason for elucidating evidence. Many points of prime importance to the public health as to matters of fact are still in much uncertainty. Doubts relating to agents assumed by sanitary inquirers to be deleterious still linger in the Profession, and by no means only among its least distinguished or influential members. The exact operation of animal effluvia, of a cesspool atmosphere, of excessive moisture,—conditions often combined in the miserable courts and alleys of our large towns,—is by no means fully ascertained. Extended inquiries of late years have abundantly proved that the same deleterious agents operate as predisposing causes in regard to the whole class of zymotic diseases; that what will develop the exciting cause of fever will also develop scarlatina, small-pox, diarrhoea, or cholera. So certain and notorious is this fact to those who practise among the poor, that before the outbreak of

any epidemic, knowing where the predisposing causes are rife, they can foretell the precise localities where it will occur, nay, even name the alley or point to the exact house that will suffer. Such considerations have long induced me to conclude, that in regard to zymotic affections, the predisposing are infinitely more important than what are called the immediate or exciting causes. In regard to low fever, for example, it is certain that its efficient cause, the *materies morbi*, is never absent from London and other large towns; and yet it is rarely, many would say never, developed, unless there be superadded to it some predisposing cause. So true is this, that we not only daily see in the metropolis and elsewhere hundreds and thousands of persons living in the front streets exempt from typhoid fever, while the inhabitants of the wretched courts behind are scarcely ever free from it; but if by chance a given number of persons are planted in the very centre of an epidemic district, but freed from the predisposing causes of zymotic affections, they also, as a rule, will still escape."

"*On the Influence of Human Effluvia.*—According to my observation, the most injurious of all the causes operating on the diffusion of epidemic diseases, are the effluvia proceeding from the human body, particularly from the lungs and skin. The special deleterious agent consists of the effete, and, as it has been proved experimentally, highly putrescent organic matter, mingled with the expired air. That it is, when reintroduced into the living body, highly injurious, might be inferred from the very fact of the careful provision made by nature for its incessant elimination from the system. That it is small in amount is no objection to the intensity of its action; for, to the physiologist it is well known that a minute quantity of a powerful agent—the putrid matter introduced on the point of a needle in the inspection of a dead body, a single drop of concentrated prussic acid placed in the mouth of an animal, is sufficient to destroy life. It is in overcrowded bedrooms, in unventilated schools, workhouse dormitories, &c. that this effete matter taints the air, and, entering the blood, poisons the system. Although there is a great diminution in the amount of carbonic acid in the air evolved in the lungs, still the evil, quoad the development of fever, scarlatina, cholera, and so forth, depends on the organic, not the chemical products of respiration." The learned author referred to some experiments proving the truth of this assertion. He then continued: "It is, however, familiar to all practitioners, that human effluvia specially exhibit their poisonous influence when either multitudes of human beings are crowded together, or where a smaller number are placed in confined and unventilated sleeping-places. Many instances of the influence thus exerted on all kinds of epidemic disease, have come under my notice, but only a few illustrative examples can here be adduced. The following case illustrates the effect of overcrowding in respect to cholera. During the epidemic of 1849, the inmates of a reformatory establishment for young women suffered intensely from the pestilence, 40 out of a total of 96 being attacked, and 15, or rather more than 15 per cent., falling victims to the disease. Now, these poor sufferers were previously in per-

fect health; they were well fed, well clothed, and carefully attended; but the dormitories were low and much crowded; the windows, for the sake of seclusion, were partly closed up, thus greatly interfering with the ventilation. After a careful investigation, I could detect no other cause than this for the sudden outbreak occurring at a period when there was little cholera in the neighborhood. As regards the influence of overcrowding in the development of low fever, I may appeal to the experience of every medical practitioner whose duties call him much among the poor. It matters not whether we speak of the closely packed common lodging-house, of rows of houses built back to back, of the small, unventilated, and often single sleeping apartment of the mechanic, or of the ill-built cottages in rural districts, with their one bed-room, overhanging thatch and small lattice; wherever, either from the presence of numbers or the absence of ventilation, you have the fetid sickening air generated by human effluvia, there assuredly you will find fever. Although observed especially among the poor, fever, as it occurs in this country, is not especially dependent on poverty and destitution. Want may, indeed, aggravate the evil, and actual famine, as we unhappily saw a few years ago in Ireland, may give immense development to typhus; but that persons well fed, living in comfort, and strong in health, may suffer severely from low fever, is shown by a large experience. One of the best examples, perhaps, is furnished by the sailors belonging to the collier vessels frequenting the Thames. These men, as a body, are in the prime of life, robust and well fed; but as I found by examining many of these vessels, the place where they sleep—the fore-castle—is excessively small and confined, and with this serious additional evil, that as the hatchway is usually flush with the deck, whenever there is much sea, it becomes necessary to close the hatchway, where the unfortunate sailors must be without any window, as if shut up in a close box. When, too, the vessels come to London, as only one man is required to keep watch at night, all the sailors are crowded at the same time into their closely-packed berths. Some years ago the attention of Mr. Busk, the distinguished surgeon of the Seaman's Hospital Ship, was attracted to the large number of typhus cases which were admitted. In 1841, they amounted to 147; in 1842, to 167. It appeared that of all the vessels in the Thames, the colliers furnished the most fever cases. In investigating this question I could detect no other cause than the polluted air these men must have breathed in the confined fore-castle. That there is nothing connected with a sailor's mode of life to expose him to typhus, is proved by the experience of well-managed vessels, and, as one among the many proofs which might be adduced, I may mention that Mr. Clark, who has made ten voyages to India as surgeon in Messrs. Green's fine vessels, had never had a single case of typhus." The author, after referring to the very great improvement in the health of those of the working classes who inhabit the model lodging-houses erected in different parts of the town by the Society for the Improvement of the Dwellings of the Laboring Poor, and to the highly satisfactory working of the admirable

Act carried by the exertions of the Earl of Shaftesbury for controlling common lodging-houses, said that his own experience of the deplorable conditions of these abodes corroborated the statements of Capt. Hay; all tended to show that such pestilential places were the habitats of disease, and the cause of enormous expense to the rate-payers.—*London Med. Times and Gaz.*

M. LEBERT on *Cancer*.—M. Lebert, the author of the well-known work on Cancer, lately read a paper before the Surgical Society of Paris, on Fibro-plastic Tumors. The principal facts and conclusions brought forward by M. Lebert are the following:—

1. Fibro-plastic tumors are composed of a cellular texture of new formation, similar to that seen in embryonic life. Fibro-plastic tissue may have an inflammatory origin, it may be the result of hypertrophy, or arise quite spontaneously.

2. Fibro-plastic tumors are made up of a soft lobulated tissue, of a pinkish yellow; or else of a firmer texture, of a pale hue, and more homogenous; or, finally, of a mixture of a gelatiniform substance with the two structures just mentioned. These tumors are situated in the skin, or the subcutaneous areolar tissue; they may be buried in the depth of the muscular masses of a limb, especially the thigh; or else they may spring up in bone, a favorite seat being the jaws; or finally, they may grow upon the meninges.

3. Fibro-plastic tumors present the same characters in man and in domestic animals.

4. The Fibro-plastic texture, which owes its origin to inflammation, has a marked tendency to fibrous transformation; it is often met with in protracted inflammations, of which it is at the same time the support and the produce.

5. Fibro-plastic tumors present either a smooth or lobulated surface, and are either globular or flattened, according to their seat, and in cases of hypertrophy they assume the shape of the affected organ. They are generally free and well-defined; but when springing from bone they are sessile, and look like excrescences.

6. These tumors may become very large, both in glandular organs and when seated on limbs, especially when they contain much gelatiniform tissue. They are generally surrounded by a fibro-cellular envelope. When a section is made in a recent case the liquid obtained is clear and transparent; but it is sometimes thick and dull, when flocculi or entire lobuli are suspended in it. Besides the textures above mentioned, there is sometimes found in the tumors a substance of pale yellow, and quite dull; sometimes calcareous concretions are found, or else osseous radiations, when the disease begun in the periosteum.

7. Under the microscope, cells with small, rounded, or ovoid nuclei are seen, and all the forms intermediate between the cell and common fibre, especially a great many narrow fusiform bodies; the nucleoli are always very small. There are also perceived original cells with compound nuclei rolled up together, and sometimes fusiform nuclei which then constitute fibro-plastic masses.

8. As regards neighboring textures, fibro-plastic tumors grow like fibrous tumors, as they press upon these textures without taking their place; whilst cancerous tumors substitute themselves in neighboring parts. Fibro-plastic tumors follow, as to their growth, the following development:—There is first a local deposit; the increase is then slow, but soon becomes rapid; phlegmasia takes place; then comes hæmorrhage, partial calcification, softening, the formation of cysts, partial ossification, ulceration, and then, in exceptional cases, sloughing.

9. Both sexes are obnoxious to these tumors; they are seen at all ages, but they arise more frequently between thirty-five and fifty years.

10. Recurrence after operation takes place, especially in autogeneous tumors, and has not been observed in fibro-plastic hypertrophy; recurrence is not observed, as in cancer, to arise in distant organs, though it is often caused by an incomplete operation. Notwithstanding the occasional pertinacity of fibro-plastic tumors to recur in the cicatrix, they are not found to injure the general health. In very rare cases a kind of fibro-plastic diathesis becomes established; this fact has, however, been observed with fibrous, adipose, neuromatous, and melanotic tumors.

11. Singleness and a strictly local nature have been observed as a rule in fibro-plastic tumors. This fact is proved by twenty-six carefully conducted autopsies of cases in which the disease had reached its natural termination, and also by a considerable number of perfect and permanent cures after operation; whilst no such cures are known to exist respecting true cancer.

12. Fibro-plastic tumors have a much more chronic character than cancerous tumors; and save a few cases of very rapid growth, it may be said that fibro-plastic tumors, when they become fatal, last rather more than between five and ten years; whilst the natural duration of cancer is from two to two years and a half. Cases have even been known, and are not rare, in which fibro-plastic tumors have lasted twenty years and more, without much inconvenience. It should, however, be mentioned that these tumors, after a very slow progress, have rapidly assumed a very serious character.

13. Pain is very rarely acute and permanent, and is mostly, as in other tumors, of a neuralgic kind. Functional disturbance depends principally on the seat of the tumor. The general health, in the great majority of cases, remains undisturbed, except in the very rare cases of general fibro-plastic infection, or those in which the local affection has ended in extensive ulceration.

14. The prognosis of fibro-plastic tumors is much more favorable than that of cancer. Curability is the rule. The fibro-plastic texture of inflammatory origin is the more likely to be benign the more it shows a tendency to assume a fibrous character. The prognosis is, in fibro-plastic hypertrophy, likewise favorable. In fact these tumors constitute a local affection little or not at all likely to recur, which can only become dangerous in so far as its seat, extent, or amount of ulceration are concerned. Kelis is likewise an affection of a simple kind, (see "*Mirror of Hospitals*," *The Lancet*, vol. ii., 1852, p. 567,) notwithstanding its pertinacity regarding recurrence in the cicatrix after operation. Fibro-

plastic tumors of spontaneous origin are very likely to recur after excision, when they are situated on the tegumentary surface, under the skin, or in the bones. The surgeon should always bear in mind the possibility of general infection, only, however, as an occasional occurrence, but not as a probability. Fibro-plastic tumors seated in the meninges destroy the patient by interfering with the functions of the brain, though remaining all the while a perfectly local affection.

15. The treatment of these tumors should begin with the prolonged use of preparations of iodine, when the origin is of a syphilitic nature, or when the tumor is simply owing to hypertrophy. When an operation is necessary, it should consist, as a rule, of complete extirpation; strong caustics should be tried with superficial tumors of small dimension. Operations in such cases should always be performed boldly, whether the knife be carried into soft parts, or whether the affection be seated in bone. Amputation should be performed when the tumor is situate in the depth of the limb and the former sends prolongations into parts where dissection is difficult.

Autoplasty should be used to substitute healthy tissue to cicatrices likely to favor recurrence, in operations of a moderate extent, and when the tumor is seated on the surface. The actual cautery is necessary when superficial tumors are too extensive to admit of autoplasty.

It is finally advisable to use iodine *after* operations, as a prophylactic means against recurrence of general infection.—*London Lancet*.

Case of Vitiligoidea, with remarks. By W. H. RANKING, M. D. (Cantab.) Norwich.—In the summer of 1850, the following case presented itself to my notice, and a very brief inspection was sufficient to lead me to believe that I had encountered a disease, of which no distinct account had been given by writers on dermatology. I took notice of the case at the time, with reference to publication, but other occupations interfered with my intention, and the circumstance had all but escaped my recollection, when I met with the description of this disease, by Dr. Gull, under the term *vitiligoidea*, the identity of which with my own case could not fail to be recognized. The instances of this curious malady hitherto put on record do not amount to more than five. I have accordingly endeavored to give a succinct account of what is known thereupon.

My patient, Mary B——, a married woman, aged twenty-nine, consulted me, in June, 1850, for obstinate and severe jaundice. Inquiry into her history elicited the facts that her health had been good until three years previously, when, after an attack of dyspepsia, jaundice supervened, and had continued till the time of her visit to me, uninfluenced by treatment, including several salivations. At this time she was universally and deeply jaundiced; but the appearance which immediately and more strongly attracted my attention, was a peculiar deposit on the skin surrounding the eyes, and which, on further investigation, I found to be abundantly distributed over other portions of the body. She informed me that about twelve months ago, spots of this peculiar deposit first appeared on the shoulders, and have since shown themselves on the face, arms,

hands and lumbar regions. In the face, it has assumed a symmetrical disposition, extending along each eyelid, and down the side of the nostrils. On the shoulder the spots are circular and distinctly elevated. Along the inside of the elbows, and on the hands, the deposit follows the flexures of the joints, being flat and linear on the palmar aspect, and more tubercular and rounded on the dorsal. The color of this deposit is of a whitish-yellow, resembling more nearly than anything else the atheromatous patches so commonly found in the aorta. On the face and palms of the hands it is but little elevated; and, as in atheroma, appears to be deposited immediately under the epithelium. On the shoulder and in the dorsal region the spots are circular and prominent, bearing no inconsiderable resemblance to split peas.

At the time of my seeing this case the peculiar affection was still on the increase, fresh spots showing themselves almost daily. They were tender to the touch, and were the seat of a burning sensation, which prevented the patient using her hands without acute suffering.

The history of the jaundice pointed to the conclusion that it depended upon permanent occlusion of the common duct. The woman died soon after my seeing her, under the care of another practitioner, and, as far as I could learn, from severe and rapid peritonitis.

The only references to this singular cutaneous disease which I have been able to meet with are contained in a paper published in "Guy's Hospital Reports;" for although Willan alludes to a rare disease under the term *vitiligo*, which has some points of resemblance, the full comparison of the two is unfavorable to the notion of their identity. The term used by Willan has, however, led Dr. Gull to give to the disease in question the name *vitiligoidea*. The cases narrated by him are four in number. The first is that of a married woman, aged forty-two, who had been deeply jaundiced for two years. At the end of fourteen months this peculiar change in the integument began to show itself on the eyelids, assuming a perfect symmetrical form, as well as in the palms of the hands, where, as in my case, it followed accurately the flexures of the joints. The disease remained stationary till her death.

A second patient was admitted into Guy's Hospital, laboring under diabetes; but in this instance the eruption was so far different in its aspect that I cannot think Dr. Gull justified in associating it with the former case.

The third instance is that of a married woman, like the first, the subject of jaundice. The skin diseases commenced at the end of fourteen months, appearing first on the hands and subsequently affecting the eyelids. This case is now, I believe, under treatment, but the disease shows a tendency to increase rather than diminish.

The fourth case described by Dr. Gull is, in every respect, similar, both as to the prior existence of jaundice, and the distribution of the cutaneous deposit.

I have ventured to call attention to the above singular disease, chiefly on account of its singularity, and not with the expectation of being able to offer any elucidation of its pathology or treatment. To speculate on the former might, until further experience is af-

forded, be an unprofitable exercise; nevertheless, it is impossible to overlook the important fact of some connexion between the cutaneous deposit and jaundice of an aggravated degree and prolonged duration. In every case reported, obstinate and severe jaundice had existed for several months prior to the appearance of the skin malady. Can it be that, like the cretaceous deposits of gout, this was an attempt at elimination of noxious matter necessarily contained in blood, in which was suspended the elements of bile? I regret much that I had no opportunity of instituting a microscopic examination of the deposit; but its *prima facie* resemblance to atheroma would warrant the idea that, like the latter exudation, the peculiar deposit in question contained cholesterine, a principle which is well known to enter largely into the composition of the biliary secretion.

This explanation of the composition and the pathological significance of the vitiligoid deposit is, as we have premised, simple hypothesis; but, such as it is, I would offer it, in order to elicit observations.

Respecting treatment, nothing can be said. If, as I imagine, the affection is but a symptom of prolonged retention of bile, or its elements in the blood, nothing in the way of amendment can be anticipated, unless the original malady be removed, when possibly the absorbents might spontaneously remove the deposit. In the cases hitherto reported no decided amendments followed any of the means adopted.—*London Lancet*, Feb., 1853.

MATERIA MEDICA AND THERAPEUTICS.

On a new source of Kino. By ROBERT CHRISTISON, M. D., V. P. R. S. E., Professor of Materia Medica in the University of Edinburgh.—In a letter of the 20th of last July, from a merchant of Moulmein, Mr. R. S. Begbie, son of Dr. Begbie of this city, I was informed that a species of kino—which seemed to him to present the physical and chemical properties of the commercial variety of that drug in the English home market, and which had been ascertained by a medical friend at Moulmein to possess also its medical virtues—might be largely obtained from a tree abounding in the adjacent provinces. Mr. Begbie added, that he believed “a small quantity had been sent some years ago to England; but as an article of export generally it has not yet been shipped.” This notice was accompanied by a small specimen, which is now produced, and which is large enough to allow of its principal properties being accurately ascertained.

As the inquiries I have made lead me to suppose that the article in question is of a very fine kind, and that the fact of its production near Moulmein, and probably over a considerable part of the neighboring province of Pegue, is not hitherto known in Europe, I beg to present to the Pharmaceutical Society the following description of it, and the reasons which induce me to think that it is obtained from the identical

tree which yields in Malabar the present commercial kino of European trade.

The small portion sent by Mr. Begbie consists partly of little angular fragments; but there are several larger masses which are portions of cylinders, about half an inch in diameter, apparently moulded by collecting the juice in reeds. These have externally a greyish, striated surface, most unlike that of the broken fragments of commercial kino. They are easily frangible; and the broken pieces have exactly the appearance of ordinary kino, except that they are even blacker, and more glassy by reflected light; and by transmitted light, though opaque when of very moderate thickness, they are of a splendid cherry-red color in very thin fragments. They are easily reduced to fine powder, which has a dark, dirty, lake tint. Their taste is very slightly bitter and intensely astringent.

Cold water acts more quickly on this kino than on the kino of commerce, gradually dissolving a very large proportion of it, and forming a deep, cherry-red, astringent solution; and there is left a small proportion of greyish flocculent matter, which is slowly soluble in a great measure in boiling water, and which appears to be analogous to the insoluble variety of gum called bassorin. Boiling water dissolves this kino almost entirely, and the solution, when cold, continues nearly transparent for at least an hour; but afterwards it becomes slightly turbid, and a scanty, flocculent precipitate slowly subsides. Both the hot and cold solutions yield, when much diluted, a deep, olive-green precipitate with the tincture of sesquichloride of iron; and when the solution is concentrated, a dirty grey precipitate is formed so abundantly that the whole fluid becomes a thick pulpy mass. A boiling solution in twenty-five parts of water forms with the iron test a pulp too thick to flow, which is one of the characters assigned in the Edinburgh Pharmacopœia to true officinal kino. But I find, further, that a solution in even seventy-five parts of cold water, has a beautiful, intense cherry-red color, and forms with sesquichloride of iron, in the course of an hour, a pulp so thick as to flow only sluggishly.

On comparing these characters with a fine specimen of kino of home trade, and also with a specimen collected in the neighborhood of Goomsoor, in Mysore, by Dr. Cleghorn, of the Madras Medical Service, when he was Surgeon of the surveying corps of that country, I find that the last two are identical, with the single exception, that Dr. Cleghorn's specimen is somewhat redder when seen in bulk; and that the Moulmein kino is blacker, more vitreous in lustre, rather more easily soluble in cold water, and with rather less flaky residue; and when the cold solution is diluted to the strength of one in seventy-five, it requires rather more sesquichloride of iron to throw down all its tannin, and consequently the precipitate forms with the water a somewhat firmer pulp.

This kino dissolves, with only a trace of flaky residue, in rectified spirit, which forms an intense cherry-red tincture of very pure astringent taste. The quantity in my possession is scarcely sufficient to allow of a fuller examination of its chemical properties and composition. But its

physical characters, the action of water, and the properties of the watery solution, even as I have shortly indicated them, are enough to prove that the Moulmein kino is identical in nature with the present kino of home trade, and in point of quality somewhat superior. I have no doubt, from its taste, and the action of the iron test, that an analysis will prove the presence of a larger proportion of tannin.

It does not absolutely follow, even from the exact correspondences now mentioned, that the Moulmein kino is derived from the same botanical source with the present officinal kino of Europe. The officinal sort has been accurately referred by the separate researches of Dr. Gibson, Dr. Pereira, and Dr. Royle, to the *Pterocarpus Marsupium*, of Roxburgh, a fine forest tree abounding in the hills of Mysore and other parts of the Indian Peninsular. But the *Butea frondosa* also yields a fine kino, which I have shown in my Dispensatory to be scarcely distinguishable in chemical properties from the officinal kind.

Mr. Begbie, however, has fortunately supplied me with a description of the Moulmein tree, sufficient to identify it with the true kino tree of Mysore. "It is," said he, "one of the commonest trees in the adjoining provinces, and is called by the Burmese *Padouk*. It grows to a great size and height. Immediately before the rainy season it is covered with long pendant yellow flowers, of an exceedingly sweet odor, like that of jessamine. The tree flowers three times, at intervals of perhaps a week or ten days; each blow lasting about twenty-four hours. The wood is in color like mahogany, and exceedingly heavy. It is used in India for making gun-carriages; and at present we are preparing some for the London market, in executing an order, I fancy, for the Royal Artillery. It makes most beautiful furniture. The gum exudes slightly without incision; but on a cut being made into the tree, it bleeds most freely." This description is not sufficiently botanical to enable me to determine the tree from its characters in botanical works. But on submitting Mr. Begbie's letter to Dr. Gibson, Conservator of the Forests of Bombay, who very lately visited Edinburgh, that gentleman at once recognizes his old acquaintance of the Indian woods, the *Pterocarpus Marsupium*; which he was one of the first to discover to be the true source of kino, by observing that, when his companions on a shooting party cut their names into the bark of a tree beside which they had been resting, a red juice freely exuded, and concreted into a dark, astringent gum, like the kino of commerce.—*London Pharm. Journ.*, Feb. 1853.

On a New Test for Distinguishing the Russian, Indian, and English Rhubarbs. By Mr. JOHN S. COBB.—The absence of a good test for distinguishing the Russian from East Indian rhubarb has been too much felt and too often expatiated on to require any comment. The want of it has led to a great many analyses, undertaken with a view to the discovery of some constituent peculiar to one or the other species; I am not, however, aware of any successful results having, up to the present time, ensued from these researches, at least so far as concerns the discovery of any reagent capable of distinguishing the varieties of this drug.

Several tests have indeed been proposed, but none of these are to be relied upon. The grittiness, when chewed, caused by the presence of oxalate of lime in the Russian variety, is far from being a satisfactory test. I have met with specimens of Indian rhubarb possessing this quality to a great degree.

Geiger states that "iodized hydriodic acid" gives with a decoction of Russian rhubarb a green tint, with Indian a brownish color, and a deep red with the English rhubarb; but in my hands this test has proved singularly fallacious; with it I obtained a green color with the Russian, a dirty green with Indian, and a sea-green with English rhubarb. Moreover, the color varies according to the quantity of the test added; and if the latter be in excess, any of the varieties when viewed by transmitted light, will seem of a red color. If, however, the solution be subsequently plentifully diluted with water, the green tint is rendered evident.

Thomson remarks, first, that a solution of isinglass gives a more abundant precipitate in the Indian than in the Russian rhubarb; and second, that the decoction of yellow bark gives a more abundant *greenish* precipitate with the infusion of Russian than with the East Indian rhubarb, in the latter of which the precipitate is bright yellow.

These tests do not appear to me to be conclusive. The precipitate caused by the solution of isinglass, gives a bulkier but not really more abundant precipitate in the one case than in the other, as is evident when the precipitate has subsided, and the difference of color in the other test is so small that it requires a somewhat artistic eye to appreciate the distinction, and it certainly would not serve otherwise than as a comparative test. I may incidentally mention here, that in the course of my experiment, I found that the acetate of lead, when ammonia had previously been added, gave with infusion of Indian rhubarb a violet-red precipitate, and one approaching to a brick-red with Russian rhubarb, the precipitate in the latter being of a coarser description than in the former. The same objection, however, applies to this as to the previously cited tests, for any reagent depending for its efficiency on a slight variation in color or bulk, must practically be of little value. Bearing this in mind, I have endeavored to find one not liable to these objections.

The test to which I am about to direct your attention is based on the supposition which I had the honor of suggesting to you some two years since, that the precipitate formed in the tincture of rhubarb is the result of the oxidation of the active principle of the rhubarb. I am not at present prepared to maintain the correctness or inaccuracy of this view, but I am now engaged in some experiments on the subject, which, if satisfactory, I shall have the pleasure of submitting to you on a future day. Starting then with this hypothesis, and remarking that the tincture, when made with Indian, deposited more than with the Russian rhubarb, I thought it probable that an oxidizing agent might exhibit sufficient difference in its *modus agendi* on the species of rhubarb to enable us to identify them thereby. In this, though at first unsuccessful, my anticipations were ultimately realized. If two drachms of simple (*proof*) tincture, of the P. L. strength, be placed in a test tube, and

treated with one drachm of a mixture of equal parts of nitric acid and distilled water, the following results will take place:—

East Indian soon becomes cloudy, and in from five to twenty minutes is turbid.

Russian remains unchanged for three or four hours.

English loses its brightness in half an hour; on holding it before a light a precipitate may be seen diffused through it.

If, instead of ʒij. of tincture, one of tincture and one of water be used, the test as regards the Indian is still more prompt, but the difference between the English and Turkey not so clearly defined.

There are one or two precautions to be observed in the application of this test: the dilute acid should be gradually added, the test tube being shaken in the meantime. Again, if rectified tincture or strong acid be used, very equivocal results are obtained. My first experiments were made with strong acid and rectified tincture. The results were excellent, as far as regarded three or four samples; but when I came to essay another, the very reverse of the former experiments took place. I thought at first that the samples of rhubarb could not be rightly marked, but on again returning to the former samples, they also gave contradictory results. I procured other samples, but ultimately discovered that this anomalous reaction was due to the time the nitric acid was left in contact with the supertangent film of tincture, in which it seemed to set up a sort of fermentation, which, after the two were mixed by agitation, propagated itself throughout the liquid. Thus, if two drachms of tincture of East Indian rhubarb be placed in two separate test tubes, held in the hand, and the acid added; if the tube to which the acid is last added be immediately agitated, and then the other treated in a similar manner, the one will shortly let fall a ropy deposit, while the other remains clear. By using the dilute acid and proof tincture these fallacies are avoided.—*Lond. Pharm. Journ.*, Feb. 1853.

SURGERY.

Coagulation of the Blood in Arteries for the Cure of Aneurisms.—By Dr. PRAVAS of Lyons. The plan which Dr. Pravas proposes consists in coagulating the blood in the arterial vessels by the injection of a few drops of a concentrated solution of perchloride of iron. This is done with either a gold or platinum trocar, very finely pointed, introduced obliquely through the walls of the vessel with a rotatory sort of motion. The instrument being furnished with a syringe, and the piston worked by a screw, so that the injection would not be thrown in jerks, and the quantity of liquid used measured accurately. Besides, the circulation in the vessel must be temporarily stopped, and some other precautions taken, which will be mentioned directly, after an account of the experiments performed.

1st. The carotid of a sheep having been exposed, the current of blood was interrupted by the finger and thumb, at two points distant one inch and a half or two inches; about a spoonful of blood was thus enclosed.

A puncture was made very obliquely in the walls of the vessel, and three or four drops of the perchloride of iron injected. For this purpose two turns of the screw were made, each turn ejecting about two drops of the fluid. Immediately after the injection of the salt, an increase in the density of the blood could be felt, and a clot forming rapidly. In four minutes the vessel could be left to itself, leaving off all compression; in fact, the clot did not change its position, and it could be felt in the same place for eight days subsequently.

2nd. A similar experiment performed on a horse gave the same result. The portion of the artery in which the circulation had been suspended was about three inches long, and could contain five teaspoonfuls of blood. Eight or ten drops of the solution were injected, Dr. Pravas having observed that it took nearly two drops of the solution to coagulate a teaspoonful of blood. In four minutes in the horse, as well as in the sheep, the clot was fully formed; it was firm and resisting, and was not displaced by the impulse of the blood for a quarter of an hour, at the end of which time that portion of the vessel subjected to the experiment was cut out and split; the inner surface was rough, and showed granulations and longitudinal striæ along the whole length occupied by the clot.

3rd. In another horse, a similar experiment was performed, with exactly similar immediate results, except that this animal was preserved for eight days, leaving the vessel exposed, so as to watch the progressive changes. It was observed that the induration of the carotid extended above and below the formative clot. At the end of eight days the horse was killed, and on examining the interior of the artery, three distinct clots were seen, which caused its obliteration for about eight inches and a half in extent. The middle clot corresponded to where the injection was introduced, and had a darker-colored and granular appearance, about an inch and a quarter long.

Resumé: After the injection of the perchloride of iron, four minutes and a half were sufficient to cause a clot in the carotids of these animals so consistent and adherent as not to be displaced by the impulse of the column of blood from the heart.

The above experiments have been witnessed by M. Lallemand, and M. Le Coq, directeur de l'Ecole de Lyon. Dr. Pravas is still pursuing his researches, and has made these first results public, so as to draw the attention of experimentalists and practitioners to this plan of obliterating arteries. So far, his observations have been purely experimental, and instituted in such a way as to prove directly the mode of action of the coagulating agent he employs. As to its application for the cure of aneurism in the human subject, the proceeding ought to be thus modified: it is into the aneurismal sac that the solution ought to be injected, having previously arrested the circulation below the sac—that is, between it and the capillaries. The quantity injected should be in proportion to the size of the sac, and the compression below should last four or five minutes. This, in Dr. Pravas's opinion will be sufficient to form an extensive clot, capable of plugging the artery and producing the same effect as ligature.—*Dublin Med. Press, from Presse Méd. Belge.*

On the Manufacture of Sponge Tents. By DR. DIGBY.—[The following directions are given:] “A piece of tolerably fine sponge, previously well dried, should be soaked in *Mistura Acaciæ*, and rolled up into a cylindrical form, somewhat in the shape of a small segar, tapering to a point at one end. The other, or thick end, must be rolled round a middling-sized awl, partly for the purpose of leaving a central perforation into which the end of the instrument which carries it is to be inserted, and partly to fix it, while a piece of stout cord is wound tightly and closely around it from the thick end up to the point. By this means, the sponge is powerfully compressed into the cylindrical form above mentioned, and if well-dried, becomes as hard as a piece of wood, and retains its compressed state perfectly when the cord is removed. Any little projections or roughnesses may be trimmed off with a sharp knife; and, lastly, the tent is to be dipped several times in melted tallow, rendered harder by the admixture of a little white wax, until it has become thickly coated. A piece of string or tape is fastened to the lower or thicker end, to assist in removing it from the os uteri when expanded. The heat of the part soon melts the unctuous covering, and thus enables the tent to slide up in its own grease as it gradually melts, when otherwise it might have been difficult to introduce it. The secretions of the part slowly pervade the sponge, and dissolve the hardened gum with which it has been soaked, and the sponge gradually expands as it returns to its full size.

“Twelve hours is usually a sufficient period to affect this in; and the degree of dilatation produced will guide us to the introduction of a larger tent on the removal of the first.”—*Med. Times.*

ANATOMY AND PHYSIOLOGY.

On the Muscles which open the Eustachian Tube. By JOSEPH TOYNBEE, Esq., F. R. S.—The author commenced by alluding to the opinion generally held by anatomists, viz:—That the guttural orifice of the Eustachian tube is always open, and that the air in the tympanum is constantly continuous with that in the cavity of the fauces. An examination of the guttural orifice of the tube in man and other animals has led the author to conclude, that, except during muscular action, this orifice is always closed, and that the tympanum forms a cavity distinct and isolated from the outer air. The muscles which open the Eustachian tube in man are the tensor and levator palati, and it is by their action, during the process of deglutition, that the tubes are ordinarily opened. That the act of swallowing is the means whereby the Eustachian tubes are opened, is shown by some experiments, of which the following may be cited:—If the mouth and nose be closed during the act of swallowing the saliva, a sensation of fulness or distension arises from the air, which is slightly compressed in the fauces, passing into and distending the tympanic cavities. Upon removing the hand from the nose, it will be observed that this feeling of pressure in the ears does not disappear, but it remains until the act of deglutition is again performed, while the

nose is not closed. In this experiment the Eustachian tubes were opened during each act of deglutition; during the first act, while they were open, air was forced into the cavity of the tympanum by the contraction of the muscles of the fauces and pharynx, and the guttural orifices of the tubes remained closed until the second act of swallowing, which opened the tubes, and allowed the air to escape. That the act of deglutition opens the Eustachian tubes was inferred also from the custom usually adopted of swallowing while the descent in a diving-bell is performed; by this act the condensed air is allowed to enter the tympanum, and the sensation of pain and pressure in the ears is removed or entirely avoided. The author gives an account of the Eustachian tube and its muscles in mammalia, birds, and reptiles. In some mammalia the muscles opening the tubes appertain as in man to the palate; in others, this function is performed by the superior constrictor muscles of the pharynx. In birds it is shown that there is a single membranous tube into which the two osseous tubes open; this membranous tube is situated between, and is intimately adherent to, the inner surface of each pterygoid muscle, and by these muscles the tube is opened. The conclusion to which the author arrives respecting the influence of the closed Eustachian tubes, is, that the function of hearing is best carried on while the tympanum is a closed cavity, and that the analogy usually cited as existing between the ordinary musical instrument the drum and the tympanum, to the effect that in each it is requisite for the air within to communicate freely with the outer air, is not correct. On the contrary, the author shows that no displacement of the air is requisite for the propagation of sonorous undulations, and that, were the Eustachian tubes constantly open, these undulations would extend into the cavity of the fauces, there to be absorbed by the thick and soft mucous membrane, instead of being confined to the tympanic cavity, the walls of which are so peculiarly well adapted to the production of resonance, in order that they shall be concentrated upon the labyrinth.

In corroboration of the above views, the author states, that in cases of deafness, dependent simply upon an aperture in the membrana tympani, whereby the sonorous undulations are permitted to escape into the external meatus, the power of hearing has been greatly improved by the use of an artificial membrana tympani, made of very thin vulcanized India-rubber or gutta percha, which is so applied as again to render the tympanum a closed cavity.

OBSTETRICS.

Extraordinary Case of Mortification, occasioned by Pregnancy. By SAMUEL L. HAMILTON, M. D., of Chattooga county, Georgia.—Mrs. S., aged twenty years, during the sixth month of her second pregnancy, was attacked June 5th, 1848, with remittent fever, which readily yielded to ordinary treatment. After this she did well for twelve or fifteen days, during which time nothing of importance occurred, but she was perhaps unusually hearty, which I attributed to her condition.

On the morning of the 20th of June I was again called to see her,

and found her with extreme pain in the toes of her right limb, which was so cold half way to the knee as to yield to the hand when applied the same sensation as that of a dead body. There was little or no excitement of the pulse; nor was there any evidence of disease in the general system. The pain in the foot increased from day to day, until the cries and shrieks of the unfortunate sufferer were almost too intolerable to be borne by her surrounding friends. It cannot be said that she was entirely easy until her delivery, except while under the influence of large doses of morphine, from the effects of which she would frequently awake in violent pain. Her sleep was evidently not profound, under as large doses of the above medicine as it is thought prudent to administer under any circumstances. It was attempted, but in vain, to restore the lost temperature of the extremity—every thing was used that would promise this result, without vesicating the skin, which was avoided, notwithstanding the repeated solicitation of friends for the application of a fly-blister. There finally appeared large yellow blisters upon the diseased surface, which, on being ruptured, discharged a serous fluid. It was evident, after this, that there was not sufficient vitality in the skin to warrant recovery. The skin and all the soft tissues now began to slough, until the ligaments of the metatarsal articulations were destroyed—at this point they were separated, which gave the patient some slight relief. The temperature of the limb was partially restored from above, down to within a short distance of the ankle-joint; the pain, however, continued unabated till labor came on, when it then entirely ceased. The lady was then delivered of a large child, after which there was not the slightest return of pain. The labor was in all respects natural—the stump of the extremity, which had been suppurating, now readily healed—the woman recovered, and has since given birth to two children, without the slightest return of the affection.

I was constrained to the opinion that this extraordinary case was the result of pressure of the gravid uterus upon the arteries and nerves passing through the pelvis—viz., the ext. iliac artery and the great sciatic nerve, whose extremities supply nutrition and innervation to the disorganized part. From the history of her previous pregnancy, it appeared that there had been running ulcers from about the sixth month until delivery; the cicatrices were still perceptible, and occupied the regions covering the posterior and anterior tibial arteries. I think it a reasonable inference, that the pressure was exerted upon the nerves, as well as the arteries, from the intense and continuous pain which nothing could relieve until the removal of the cause, when the suffering simultaneously disappeared.

As to the treatment of the case, opium may have given some temporary relief. Position was tried without the least success. Supporters were also tried with the same result. We would feel inclined, however, were we called to treat another case, to try more thoroughly both supporters and position. We might particularize as to local applications, &c., but they were such as common sense would dictate, and failed to afford any relief—we therefore omit their tedious detail.—*Southern Med. and Surg. Journ.*